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# DEPARTMENT OF PUBLIC WORKS

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## CITY AND COUNTY OF SAN FRANCISCO

## Annual Report 1970-1971





# **ANNUAL REPORT**

**OF THE**

## **DEPARTMENT OF PUBLIC WORKS CITY AND COUNTY OF SAN FRANCISCO**



**JUNE 30, 1971**

□

**JOSEPH L. ALIOTO**  
MAYOR

**THOMAS J. MELLON**  
CHIEF ADMINISTRATIVE OFFICER

**S. MYRON TATARIAN**  
DIRECTOR OF PUBLIC WORKS

□

MATERIAL COMPILED BY JOHN A. JELINCICH, BUREAU OF ENGINEERING

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Bureau of Engineering  
*"San Francisco Impressions"*

**MAYOR**  
**JOSEPH L. ALIOTO**

**CHIEF  
ADMINISTRATIVE  
OFFICER**  
**THOMAS J. MELLON**

**DIRECTOR**  
**S. MYRON TATARIAN**

# DEPARTMENT OF PUBLIC WORKS



**CITY AND COUNTY OF  
SAN FRANCISCO**

**JUNE 30, 1971  
ORGANIZATION CHART**

**ASSISTANT  
DIRECTOR**  
**ADMINISTRATIVE**  
**R. BROOKS LARTER**

**GENERAL  
OFFICE**

**BUREAU OF  
ACCOUNTS**  
**SUPERVISOR**  
**LESTER FONG**

**PERSONNEL  
ADMINISTRATION**  
**SUPERVISOR**  
**ALBERT C. AMBROSE**

**ASSISTANT  
DIRECTOR**  
**MAINTENANCE  
AND OPERATION**  
**ARVID H. EKENBERG**

**BUREAU OF WATER  
POLLUTION  
CONTROL**  
**SUPERINTENDENT**  
**KEENO FRASCHINA**

**BUREAU OF  
STREET REPAIR**  
**SUPERINTENDENT**  
**CHARLES F. MCFADDEN**

**BUREAU OF  
BUILDING  
REPAIR**  
**SUPERINTENDENT**  
**JOHN S. RUTHERFORD**

**BUREAU OF  
STREET CLEANING  
AND PLANTING**  
**SUPERINTENDENT**  
**BERNARD M. CROTTY**

**BUREAU OF  
ENGINEERING**  
**CITY ENGINEER**  
**ROBERT C. LEVY**

**BUREAU OF  
ARCHITECTURE**  
**CITY ARCHITECT**  
**CHARLES W. GRIFFITH**

**BUREAU OF  
BUILDING  
INSPECTION**  
**SUPERINTENDENT**  
**ALFRED GOLDBERG**

**CENTRAL PERMIT  
BUREAU**  
**SUPERVISOR**  
**CLYDE VOLENS**



CITY AND COUNTY OF SAN FRANCISCO  
DEPARTMENT OF PUBLIC WORKS

OFFICE OF THE  
DIRECTOR OF PUBLIC WORKS

December 15, 1971

260 CITY HALL  
SAN FRANCISCO  
CALIFORNIA 94102

Annual Report  
1970-1971

Mr. Thomas J. Mellon  
Chief Administrative Officer  
City and County of San Francisco

Dear Mr. Mellon:

In compliance with the provisions of Section 20 of the Charter of the City and County of San Francisco, I submit the annual report of the Department of Public Works for the fiscal year ending June 30, 1971.

The Department budget totaled \$35,302,342 from the following budgeted sources: General Fund, Special Gas Tax Street Improvement Fund and Road Fund. The amount actually expended was \$22,668,372, which does not include large encumbrances being disbursed, but not yet finalized, for capital improvement projects.

During the year the Department awarded 277 public construction contracts for a total bid amount of approximately \$62,400,000. These figures, comparing with those of the previous year, represent a decrease of 4 contracts, but an increase of almost \$37,000,000 in value with the latter figure reflecting a \$29,000,000 contract for the construction of the San Francisco General Hospital Medical Center. Other major construction projects in progress during the year included Diamond Heights High School, Army Street Circle Channelization, Candlestick Park Stadium Expansion and Various Improvements, Mission Street Reconstruction, City College Creative Arts Building Extension, and Upgrading of Water Pollution Control Plants and Sewerage Facilities.

Regarding private building activity, the total value of the construction work for which building permits have been issued is estimated to be \$156,000,000, as compared with the value of \$314,000,000 for the previous year. Annual totals, however, do not accurately reflect the average volume of construction due to the distortion created by the heavy grouping of permits within certain months. For example, the total value covered by permits issued in July and August, 1971 alone exceeded \$170,000,000. Private building activity therefore is still at a rapid pace.



A very unusual activity for the Department during the past year was the establishment and the operation of a summer youth training and work program. A total of 486 youths in the age group of 16 to 21 participated in the program, which was financed through the use of Gas Tax Funds.

Once again, I wish to commend the Assistant Directors, the Bureau heads and their staffs for their fine efforts and cooperation. I am also grateful for the help and support you and your staff have given me during the year.

Very truly yours,

A handwritten signature in dark ink, appearing to read "S. M. Tatarian". The signature is fluid and cursive, with a large initial "S" and "M" that are connected to the rest of the name.

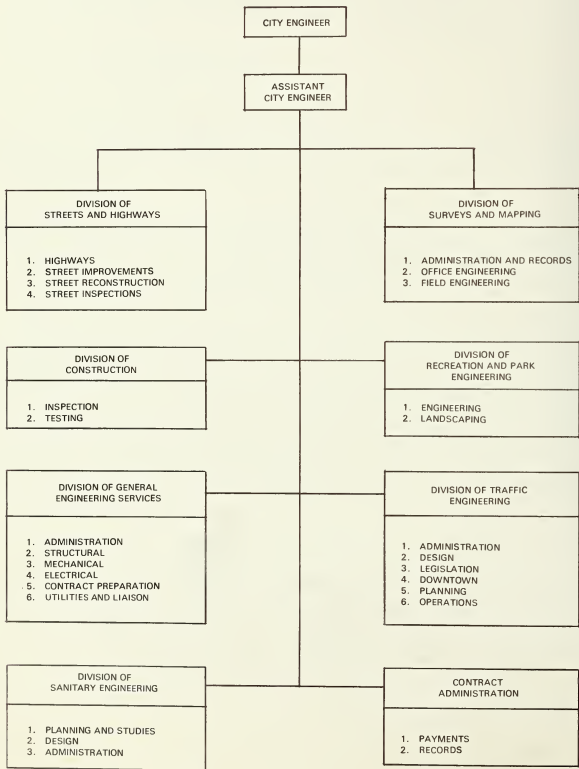
S. M. Tatarian  
Director of Public Works

# ORGANIZATION CHART

## BUREAU OF ENGINEERING

### DEPARTMENT OF PUBLIC WORKS

JUNE 30, 1971



## BUREAU OF ENGINEERING

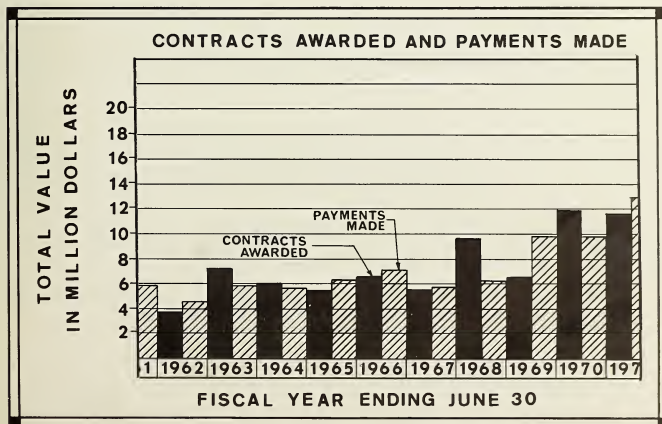
Robert C. Levy, City Engineer

The Bureau of Engineering's varied activities have centered mainly around four major phases of Municipal Engineering during the 1970-71 year. These four are Traffic Safety and Improvement, Water Pollution Control, Street Beautification, and Recreation and Park Engineering.

In Traffic Safety and Improvement, the highlights have been the implementation of the Downtown Traffic Plan whereby major vehicular streets were converted to one-way traffic with "no stopping" provisions and special truck loading zones, the adoption of a new street name sign program (detailed later on in this report) and the ongoing construction of the Army Street Circle Rechannelization Project which is a three level grade separation at one of the heaviest congested intersections in the country.

Water Pollution Control continued to demand the lion's share of time and effort during this fiscal year. Continued study and development of the City's Master Plan for an overall solution to the wet weather problems which will be submitted to the Board of Supervisors and the Regional Water Quality Control Board in the latter part of 1971, along with the design of the North Point Water Pollution Control Plant Effluent Outfall Extension (described in detail further on) required the majority of the available manpower. Other significant accomplishments were the adoption of an Industrial Waste Ordinance in January 1971 providing for the regulation of the quality and quantity of industrial waste substances and a fee schedule for same and the study and preparation of a "Sewer Service Charge" based on water consumption to be presented to the Board of Supervisors in August 1971.

Street Beautification, in addition to our continuing street tree planting and street lighting improvement programs continued to center on the multi-million dollar Market Street Beautifi-



cation Program (reported in the 1969-70 report). Street trees and paving brick were purchased for the entire project and the design details were finalized to permit advertising construction contracts in September 1971. Since there were 126 parcels with subsidewalk basements in this project, much planning and preparation was required to meet with each individual property owner on the site and to draft legislation to revoke the use of this space. Continued effort is required to ensure compliance with the revocation requirements.

Recreation and Park Engineering has continued to be the hub for new and improved recreational facilities within the City. In addition to the "Mini-Park" program (see following detailed report), the City's two major parks, Golden Gate Park and John McLaren Park, received many new and improved facilities. In Golden Gate Park, the fountains in the Music Concourse are being renovated so that they will flow again after 15 years. A John Muir Nature Trail is being constructed in the Strybing Arboretum, which will contain every type of flora found in California from the desert regions of Death Valley to the high Sierras. McLaren Park has received a new outdoor amphitheater, 4 new tennis courts, a recreation building and much new landscaped and play areas.

### PROPOSED STATE LEGISLATION

Of the many thousands of bills introduced into the State Legislature during the 1970/71 year, 146 were reviewed by this Bureau as having some effect on our activities, and recommendations for support or opposition with reasons for same were transmitted for aids in establishing City policy for each piece of legislation. Of the 146 bills reviewed, 59 were relative to streets and highways, 38 to water pollution and sanitary, 24 to traffic matters and the remainder were of a miscellaneous nature.

### DIVERSION OF GAS TAX FUNDS

An unprecedented \$12.3 million in Gas Tax Funds were earmarked for expenditure on various street maintenance items in the 1971/72 Annual Budget adopted by the Board of Supervisors in May 1971. It was a startling jump from a corresponding figure of 6.5 million in the preceding Annual Budget and would be extremely harmful to the entire street program in future years if continued on this level.

The Bureau's budget request for the 1971/72 fiscal year included 104 items of street improvement, reconstruction and other related work totaling \$18,297,904. Of this amount, only \$3,900,304 was authorized, leaving \$14,397,600 worth of necessary street work to be financed in future years.

As is evident in the new budget, street cleaning operations, electrical energy for street lights, and the maintenance and repair of street drainage facilities are being financed from gas tax funds to the fullest feasible extent. This new direction in street maintenance financing, however, may very likely lead to the dismantling of the City's long-range program for the elimination of deficiencies existing in the street system. With gas tax apportionment to San Francisco remaining at a fairly constant \$11,500,000 annually, it will be difficult to develop any substantial and meaningful program of future capital improvements for the traffic safety and welfare of motorists and pedestrians without some assurance of financing from other sources.

Consideration will have to be given to financing the necessary street work by a street improvement bond in the near future.

## COMPARATIVE TABLE ON ANNUAL STREET MAINTENANCE

	1971-72 F.Y.	1970-71 F.Y.
Financing From General Funds	\$ —	\$ 3,529,776
Financing From Gas Tax Revenues	<u>12,304,429</u>	<u>8,349,005</u>
Total Annual Street Maintenance	\$12,304,429	\$11,878,781

## CHANGING REQUIREMENTS FOR WATER POLLUTION

In March 1970 the State Water Resources Control Board issued a ban against additional sewer connections to the Southeast Sewage Treatment system due to excessive solids discharge which was followed immediately by a similar ban imposed by the Regional Water Quality Control Board for the North Point Plant. The City accelerated several contracts and added chemical coagulants at the North Point Plant in addition to making commitments to comply with dry weather requirements by April 1973 in order to have the restrictions lifted.

Now after field data has been gathered and proper time for study elapsed, it appears that meeting our commitments to the State and Regional Boards may have little value in meeting the overall requirements set down for water pollution control. This is a case of local agencies being forced to make commitments without proper study to determine the value of the commitments.

The involvement of so many new federal and state agencies as well as existing agencies with new and changing requirements in the water pollution control field gives the local sanitary districts the feeling of "treading water" in trying to maintain a sensible program to meet the discharge requirements within the time limits and financial feasibilities available.

## OUTLOOK FOR 1971-1972

Although the general public feeling in Urban centers is that we are being choked by the private automobile and measures are being taken to discourage its use in the downtown area, we are still faced with increasing numbers of automobiles and must make provisions to alleviate increased congestion. Along these lines we intend to expand the Downtown Traffic Plan, change Bay and North Point Streets to a one-way couple between The Embarcadero and Van Ness Avenue, construct a grade separation at Masonic Avenue and Geary Boulevard, continue to work with the Golden Gate Bridge District in improving transit to Marin County, improve mass transportation along the Judah and Taraval corridors in the Sunset District and possible construction of a Maritime Parkway from the north end of the Embarcadero Freeway at grade level to Bay and North Point Streets.

The studies for both wet and dry weather pollution problems should be completed by the end of 1971 and adoption of solutions to these problems will permit design of specific projects in the proper sequence to commence. Much time and many millions of dollars will be required throughout the decade of the 70's in order to meet the pollution requirements that have been imposed on the City.

Maintenance of existing streets and adding aesthetic qualities for the pleasure and comfort of the citizen would seem to be the major direction of our street program. A survey of every block and intersection of improved roadway within the City is underway to permit us to establish a priority system based on physical condition in our resurfacing and reconstruction program. Expanding the street tree planting program and undertaking sidewalk beautification with special paving and sidewalk furniture is being planned. A proposal to install sidewalk benches in bus stops throughout the City will be presented to the Board of Supervisors in August 1971.

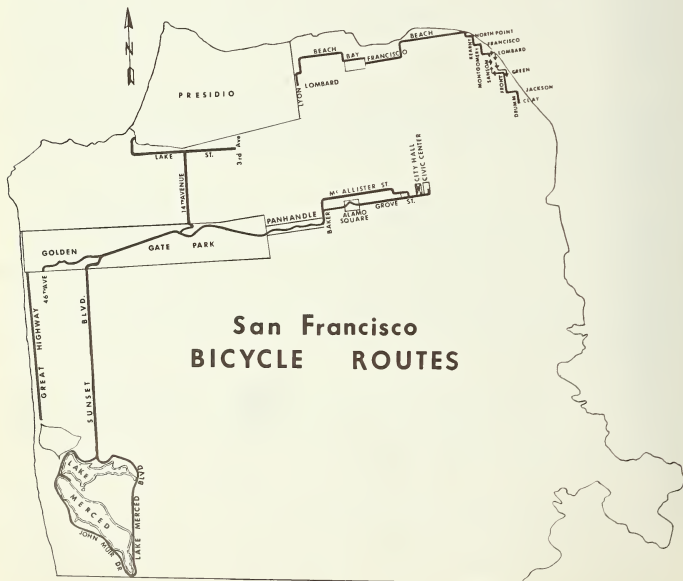
As more and more people have an increasing amount of time for leisure, recreational facilities are in great demand with no letup in the foreseeable future. Four new parks are being planned in the southeast section of the City in connection with the Hunter's Point Redevelopment Project, Fairmont Plaza in the Diamond Heights Area of the City will be constructed to provide new play areas and additional "Mini-Parks" will be placed throughout.

## SIGNIFICANT ACTIVITIES

### A. TRAFFIC ENGINEERING AND TRANSPORTATION

#### 1. Bicycle Routes

In recognizing the resurgent interest in bicycle riding by the public, San Francisco has become a front runner among Bay Area communities in establishing bicycle routes. At present there are twenty-three miles of marked bicycle routes. Most of the mileage is in recreational-type routes although there is one commuter route from the Richmond District to the City Hall area, and another from the Marina District to the Golden Gateway. Most of the route markings consist of signs warning motorists of bicycle crossings and also designating the route for bicycles. However, part of the routing has separate bike lanes striped on the pavement. The map shows the routes in the City.



The route selections were made by representatives of the Bureau of Engineering and the Recreational and Park Department. The criteria used in selection of recreational-type routes were:

1. Low numbers of conflicts with automobiles.
2. Reasonable grades.
3. Enjoyable scenic environment for recreational riding.

The criteria for commuter routes were:

1. A route leading from residential areas to high employment centers.
2. Reasonable grades.
3. Low numbers of conflicts with automobile traffic.
4. Terminal facilities at the work locations.

In connection with the last factor, arrangements were made with the Civic Center Garage management and the Board of Supervisors to provide bicycle racks and to provide all-day parking for bicycles at a nominal rate of 25 cents per day. It is hoped that similar arrangements for parking can be made at the Golden Gateway Garage. At the present time, usage of the routes is somewhat spotty. Recreational routes have a fair amount of usage on weekends but the commuter routes are lightly used. It is hoped that with the provision of a more comprehensive system of bikeways, usage will increase.



## 2. New Street Name Sign Program

May 1971 witnessed the first installation of street name signs under the new street name sign program in San Francisco. This program will cost approximately \$300,000 and will result in replacement of all the existing signs which were first installed 23 years ago.

Before selecting the final design, a very thorough study of signs was conducted by the Division of Traffic Engineering. Many varieties of signs were tested for legibility and target value and public acceptance. Some signs utilized upper case and lower case letters, others upper case only, and various color combinations such as white letters on green background, white letters on blue background and black letters on white and silver backgrounds were also tested. Tests were conducted in the daytime and at night.

From this study, the following salient facts emerged:

1. In residential areas, reflectorizing street name signs would greatly improve nighttime legibility and target value.



2. In the downtown areas, where there is heavy competition from neon signs, store windows, and other light sources, the value of reflectivity at night is negligible.

3. The reflective sign color combination with the greatest legibility and target value were black letters on a silver background.

4. For a given size of sign, upper case letters only had better legibility than a combination of upper and lower case letters.

The final conclusion of the report was that in residential areas and small business districts street name signs slightly larger than those now in use and utilizing black letters on a reflective silver background would be the accepted standard, and in the downtown area, non-reflective signs using black letters on a white background would be used. In the downtown area, a mounting program was developed that would place street name signs on every corner and give two name indications for each approach of traffic. In residential areas while only a single pole would be used, the locations of the signs would be standardized.



On important arterial streets, advance street name signs will be installed to give information to the motorist in time for him to plan his movements in advance. Vandal resistant mountings and new locations for poles will be made a part of the program in order to reduce maintenance costs. It is expected that the program will be completed in 1974.

### 3. Van Ness Avenue Center Island Signals

On April 8, 1971, a one-year test installation of center island signals was completed at Bush Street and Van Ness Avenue. The signal heads were a special type which were programmed to restrict field of view to the through lanes only minimizing confusion to the driver in the left turn haven. The test installation was mounted somewhat higher than necessary for actual permanent use to insure driver attention and simplify programming of the signals.

The center heads were found very effective in reducing accidents. During the full year before the test at Bush Street, there were 23 accidents 18 of which were right angle collisions. During the full year after the test, there were only 8 accidents 3 of which were right angle collisions.



Plans are being prepared to install center island signal heads at all Van Ness Avenue intersections making use of the programmed signals. These signals are to be installed in conjunction with lighting improvement and aesthetics will be a consideration when designing the signal mountings.

#### 4. Traffic Maintenance – BARTD Construction

Construction detours came to an end in the area of Market Street, Montgomery Street and Civic Center BARTD stations as roadways in those areas were restored. The Powell Street Station area was also partially restored and entering final stages of restoration work in the Fifth and Market Street intersection.

Construction began on the Muni subway between Van Ness Avenue and the Duboce Portal and on the Van Ness Avenue Station. This extensive construction required new traffic detours around the construction areas with special provisions for maintenance of Muni Railway facilities through the construction areas on Market Street. Outbound traffic was provided for with detour routing and traffic regulations via Hayes, Gough, Haight and Buchanan Streets and back to Market Street. Inbound traffic was detoured via 14th Street, which was made one way south-bound to carry traffic back to Market Street by way of Valencia Street or to parallel streets south of Market Street.



Looking west on Market near Gough Street.



Van Ness & Market

The Traffic Engineering Division worked closely with BARTD's engineering staff and the individual contractors to maintain the best possible traffic operations during this massive construction project.

## B. ENVIRONMENTAL WASTE CONTROL

### 1. Bay Ocean Effluent Disposal Study

At the end of June, 1971, the report on preliminary design of submarine outfall sewers, which has been two years in preparation, is nearing completion. A draft of the report will be submitted by the consultant to the City and to the Technical Advisory Board by July 15, 1971.

The study has been conducted in three phases, namely, oceanographic investigations, marine ecological investigations, and, using the two previous phases as the basis, submarine outfall investigation.

#### Oceanographic Investigations:

The performance of a submarine outfall and diffuser system is strongly affected by the oceanography of the area in which it is installed. To define the oceanographic characteristics of areas potentially suited for marine waste disposal, oceanographic studies were planned and conducted over a full year. Measurements were conducted through the three oceanographic seasons of currents, temperature, salinity and various water quality parameters. Aerial photography and dye dispersion studies were used to determine gross water movement and dispersion coefficients. The total oceanographic effort represents the most definitive work to date on the characteristics of the Gulf of the Farallones.

One interesting aspect of the oceanographic investigations was the measurement of tidal exchange at the mouth of the Golden Gate. This was the first time that an attempt had been made to measure the amount of new ocean water which enters the bay on each tidal cycle. The venture was successful and many State and Federal agencies contributed to the effort.

#### Ecological Investigations:

A matter of continuing concern to environmental engineers, and a recent subject of considerable alarmist sentiment, has been the effect that discharge of wastes to the ocean may have on the marine environment. An extensive program of field and laboratory investigations was carried out to predict the effect of marine waste discharges and to permit advance planning to avoid harmful effects on the marine ecosystem.

A wide variety of marine organisms were subjected to the various waste concentrations that might be encountered as a result of discharges to the study area as determined by the oceanographic investigations. Studies included the progressive development of organisms from eggs through larval stages while subjected to simulated waste water discharges. Organisms included the market crab and the bay shrimp.

Based on the results of the field and laboratory investigations, and on a review of technical literature on the subject, design parameters were developed to govern the selection of outfall sites and the design of submarine diffusers. The ecological design parameters applied to outfall location and construction will prevent adverse effects with a wide margin of safety.

#### Outfall Investigations:

Using the oceanographic and ecological design criteria previously developed and the design flows for the City's various facilities, a series of outfall locations and designs were investigated. The basic conclusion of the study is that the treated waste flow from the City can be discharged to the Central Bay and the Gulf of the Farallones without damage to the marine ecosystem and in a manner which will meet the water quality criteria of the regulatory agencies. For discharge to the Gulf of the Farallones a degree of treatment equivalent to primary will be required prior to discharge. For discharge to the Central Bay, primary treatment will be adequate for the present but more efficient removal of suspended solids and floatables may be required in the future.

## 2. Approved Water Pollution Bond Issues

In November 1970 the City electorate approved, by a majority of over 78%, a \$65 million general obligation bond issue for improvement of the City water pollution control systems and facilities. \$35 million of this amount is designated for projects to improve "dry weather" treatment, that is, treatment of waste flow plus runoff from a rainfall of not more than 1/2 inch per day. The "dry weather" program contemplates complete compliance with present water quality requirements. The remaining \$30 million will be directed towards first stage improvement of "wet weather" treatment. The ultimate cost for complete "wet weather" compliance is estimated to be \$200 million.

The bond proposal was originally scheduled for submission to the electorate in November 1971, but was advanced one year to meet accelerated commitments to the State Water Resources Control Board and the Regional Water Quality Control Board.

Concurrent with approval of the City bonds, the State electorate approved a \$250 million "clean water" bond issue to help local communities upgrade sewage treatment plants. Both bond issues were directed towards meeting stringent water quality requirements imposed by the Porter-Cologne Water Quality Control Act, which became effective in January 1970.

The State bond issue will provide 25% grant financing for eligible projects, and this in turn will enable the Federal government to increase its share to 55%, leaving 20% to be assumed by local entities. Thus, each dollar that the City puts up for an eligible project may be matched by a total of four State and Federal dollars.

However, the State Water Resources Control Board has limited eligible projects in fiscal years 1971-72 and 1972-73 to the "Group I" category, which includes treatment plants and outfalls. "Group II" projects, comprising facilities for control of sewage discharges from combined sewers, will not be considered for grants in those fiscal years. Thus, in the next two years there may be no matching funds for construction of "Group II" projects financed by \$30 million of the City bond issue.

Furthermore, in respect to the \$35 million of the City bond issue designated for "Group I" projects, if available Federal funds are insufficient to finance all scheduled projects of this type in the State, then the Federal share will be reduced.

In view of the uncertain amounts of Congressional appropriations for "clean water" projects, the increasing demand for Federal grant dollars around the State, and the uncertainty of grants for "Group II" projects in future years, it would be idle at this time to speculate how much the City will actually receive in State and Federal grant funds to match the \$65 million.

## 3. Wet Weather Master Plan

As previously reported the City is developing a Master Plan for the control and treatment of wet weather overflows for submittal to the Regional Water Quality Control Board in Sept., 1971. This report represents the composite results of several studies over the last several years including the Baker Street Dissolved Air Flotation Facility Study, Retention Basin Study and Tunnel Studies. Major conclusions arrived at as a result of these studies are:

a) The most effective and economical way to control and reduce pollutant emissions to the adjacent receiving waters is through the combination of increasing treatment capacity and providing storage facilities.

b) Total elimination of degradation of these receiving waters depends upon the control of all wet and dry weather discharges to the ocean and bay system.

c) Level of control is a function of the amount of money to be expended, with the upper limit being at a frequency of overflow of once in five years. As to be expected this follows

the "law of diminishing returns" as the amount of constituents removed decreases as we reduce the number of overflows.

d) Source control is the best method to handle persistent toxicants, although chemical treatment can be somewhat effective in reducing levels in some cases.

e) Implementation of the Master Plan requires a concurrent program of data acquisition, data analysis, and modeling, to realize efficient design and cost savings.

The recommendations made are:

a) The practice of constructing combined sewers in San Francisco should continue, since it affords the most secure system of water pollution control at the least cost.

b) The recommended plan is to construct storage facilities which will intercept 53% of the flow at upstream storage points in retention basins and tunnels, with the remainder of the flow being collected and stored at the termination of 15 major sewer systems. All of the other existing overflow points are to be consolidated by interception and routing to these 15 points. A 1000 million gallon per day treatment facility in the Lake Merced Area is recommended as an ultimate goal, with the capability of consolidation of treatment plants by phasing out of the Richmond/Sunset and/or North Point Water Pollution Control Plants, and the retention of only the solids handling facilities at the Southeast Water Pollution Control Plant.

c) A continuing program of data acquisition and analysis should proceed with the goal of real time control for efficient utilization of facilities and better management and control of the combined overflows.

The Master Plan is set up in four alternates, all of which are conceptually the same, differing only in the amount of storage to be constructed to achieve levels of control of 8, 4, 1 overflow(s) per year and one overflow in five years. The estimated project costs, in terms of 1974 dollars range from 330 millions for the minimum plan to 665 millions for the maximum. Included in the plan are shoreline retention basins, inland retention basins, a central storage and transport tunnel, and a 1000 million gallons per day treatment facility at Lake Merced. The plan is presented in a series of sixteen stages, with the first seven completing the required work to bring the northern and western portions of the City to the Alternate levels of control, the next five doing the same for the southeastern portion, and the remaining four completing the entire City. The time required to implement the Master Plan depends on the Alternate selected, and the amount of financing the City is able to allocate, and the amount of State and Federal grants available. It must be recognized that, although no grants are presently available for wet weather treatment, it will be virtually impossible to complete this phase of the pollution program unless grants become available in substantial amounts.

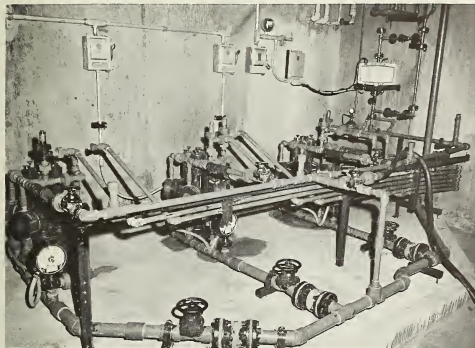
#### **4. Chemical Treatment At All Water Pollution Control Plants**

To comply with deadline imposed by Bay Regional Water Quality Control Board in exchange for lifting ban on all new building construction, the City has implemented chemical treatment of raw sewage at all three pollution control plants. The purpose of the chemical treatment is to effect coagulation of fine, minute, free floating particles, mostly in the colloidal state into larger and settleable solids; thus reducing suspended solids and turbidity in the effluent.

The Bureau of Engineering in cooperation with the Bureau of Water Pollution Control conducted laboratory and full scale plant experiments using various chemicals to determine their relative effect on coagulation. It was determined that ferric chloride in conjunction with salt water appears to be the most effective, and that during peak plant flow periods addition of polymer is needed.

Separate emergency contracts were awarded for construction of the ferric chloride injection facilities at each plant. Each system consists of storage tanks, metering pumps, magnetic flow meter, dilution water, diffusers and controls to proportion chemical feed to plant flow rates.

Liquid ferric chloride at 42% concentration is used. At this concentration all materials in contact with the liquid must be resistant to the highly corrosive nature of the chemical. Fiberglass was used for the storage tanks and polyvinyl chloride for all piping, valves, strainers and diffusers. Internal parts of metering pumps and flow meter in contact with the chemical were constructed of either teflon, tantalum, hypalon, or hastelloy-C. Diaphragm valves were used throughout to minimize valve jamming due to formation of ferric chloride crystals.

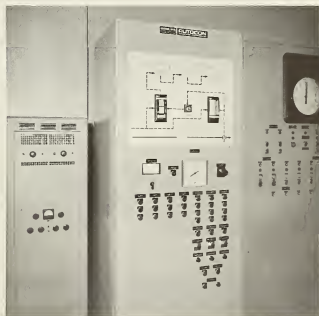


Ferric chloride metering pump installation at North Point Plant

Two 10,000 gallon storage tanks and three metering pumps, each having a capacity of 3.1 gpm were installed at the North Point Plant. The 9.3 gpm total pump capacity allows treatment of dry weather flow at a maximum dosage of 50 ppm. Automatic control regulates chemical feed in accordance with plant flow rate and dosage rate can be manually set between 10 ppm to 50 ppm.



10,000 gallon Storage Tanks at North Point Plant



Control Panel — FeC13 — North Point Plant



Richmond-Sunset Plant and Southeast Plant each have two 5,000 gallons and one 6,000 gallons storage tanks and two metering pumps each having a capacity of 2.1 gpm. Automatic controls are similar to that provided for the North Point Plant.

Temporary facilities were installed at Pier 29 to pump bay water into sewers leading to the North Point Plant. Four pumps each having a capacity of 1500 gpm with one pump discharge equipped with a throttling valve allow manual variation of flow of salt water in proportion to plant flow rate. Conductivity meter readings at the plant provide means for checking the amount of salt water for proper coagulation.

Salt water pumping facilities for the Southeast Plant consisting of two 750 gpm pumps located at the Southeast Booster Pump Station are under construction. Completion of these facilities will permit addition of salt water during periods when sewage to the Southeast Plant has a low chloride content. A salt water pumping facility for the Richmond-Sunset Plant is under investigation.

It is expected that chemical treatment of sewage will continue for the foreseeable future.

#### **5. North Point Water Pollution Control Plant Effluent Outfall Extension**

The project involves the construction of a 102-inch diameter submarine outfall pipe and diffuser in San Francisco Bay to discharge primary effluent sewage from the North Point Water Pollution Control Plant of the City and County of San Francisco.

The primary purpose of this project is the construction of an outfall pipeline which is specifically designed to efficiently diffuse and disperse sewage effluent into the surrounding waters. At the gravity design flow of 200 MGD, it is anticipated that the minimum dilution ratio at the most concentrated point in the effluent field during low slack water will be in excess of 100 to 1.

The work involves construction of a pipeline beginning at the Plant extending along Kearny Street to the Embarcadero and along the Embarcadero to the seawall between Piers 41 and 43. At this point the line crosses the waterfront and continues into the Bay 2,400 linear feet parallel to the piers until the alignment intersects the easterly edge of the Alcatraz cableway. The pipeline follows the easterly limit of the cableway another 2,600 feet. The last 1,800 feet of which is the diffuser section. The San Francisco Port Commission has placed a minimum depth restriction within the Bay of 55 feet from Mean Lower Low Water to the top of the pipe. Extensive soils investigations indicate dredging and filling will be necessary at certain locations to achieve a firm foundation. The material to be removed is clay and sand. It will be necessary to spoil approximately 150,000 cubic yards of material. Of this nearly 75,000 cubic yards will be fine silty clay. Soil will be dredged in a clamshell type marine operation, barged to an approved marine disposal site and discharged from the barge by bottom dump. It is anticipated that the disposal grounds near Alcatraz Island will be used as the dumping ground.

Construction of the outfall extension is necessary because of the poor performance of the existing effluent disposal system which discharges at the ends of Piers 33 and 35, 10 ft. below mean tide. Construction will begin late in 1971 and end late in 1972. The cost of the entire project is estimated to be approximately \$7 million.

Because of the location, nature of the work and financial Federal assistance this project is subject to multiple interlocking public agency reviews, permits and approvals. Unlike normal public works improvement, where the technical design phase constitutes the major engineering work effort, the outfall design work is far outweighed by the review, permit and approval processing required by some six Federal Agencies, ten State Agencies, and six City Agencies, and numerous private interest groups.

The project schedule has been delayed due to the "Gordian Knot" effect caused by the review time and sequence of parallel agencies.

#### **6. Southeast Water Pollution Control Plant – Improvements to Macroscopic Solid Removal Facilities**

The Southeast Water Pollution Control Plant Macroscopic Solids Removal Project is being implemented in two phases. The first phase was completed in April 1971 and is now under operation.

The work under this Contract provided physical improvements to two of the four existing sedimentation tanks at the Southeast Plant by:

1. Providing equipment required to improve removal of sludge and floating matter.
2. Providing pumps and other devices for transfer of collected sludge and floatables to the existing receiving and thickening building on the Plant site.
3. Providing the addition of chemicals to improve sedimentation.
4. Providing equipment for measurement and control of sewage flow to each of the four existing sedimentation tanks.

An interesting feature of this job was the construction of a sludge pump station between and immediately adjacent to the two existing sedimentation tank buildings.

The foundations of the new pump station were 9 feet deeper than the adjoining sedimentation buildings which were supported on timber piles, some of which were battered out into the area where the new pump station was to be built. Therefore, in order to build the pump station the batter piles supporting the tanks had to be cut, and the load they took had to be transferred to the walls of the pump station.

Excavation for the pump station proceeded around the batter piles and subgrade was made around the projected piles. One of the sedimentation tanks was then emptied thus reducing the load and allowing the batter piles on that side to be removed. One half of the foundation slab and the wall to support the emptied tank was then constructed. After the slab and wall concrete attained the required strength the tank was filled and the process was repeated for the other tank. This procedure allowed construction of the pump station while taking only one sedimentation tank out of service at a time.

The second phase is a continuance of the first phase. The objectives of the second phase are to upgrade the plant effluent; to relieve the serious solids overload in the existing sludge thickening tanks; to increase the solids concentration to the existing digesters; to reduce the quantity of solids recycled back from the sludge treatment area to the existing sedimentation tanks; and to eliminate the air pollution resulting from raw sludge air lift pumps. The work in the second phase involves major modification of sedimentation tanks 3 and 4; minor modification of sedimentation tanks 1 and 2; and modification of the existing sludge pumping system. These modifications include provision for solids concentration and control facilities, addition of piping to effect transfer of southeast plant raw sludge directly to existing digesters and "closed loop sludge recirculation." It is expected that the closed loop sludge recirculation will reduce the need for sludge piping cleaning.

#### **7. Sixth Street Sewer**

The Sixth Street sewer project is very large in terms of length and cost, it extends approximately 5700 feet from Hyde and Taylor Streets to Sixth and Channel Streets. The project is divided into 5 contracts totaling approximately \$2,600,000.

This project, which includes sewers ranging in size from 5' dia. to 10' x 7', was designed to alleviate recurring street and basement flooding by diverting approximately 380 cubic feet per second of storm flow from the existing adjacent sewer systems. Scheduling required the section crossing Market Street be constructed after the BART tubes were completed and prior to the completion of the Market Street reconstruction project.

Special design considerations for this project included: a cunette along the flatter slopes to obtain sufficient velocity to reduce solids settling; piles along parts of Sixth Street to prevent the subsidence of the sewer; special structures to minimize physical conflicts with existing facilities; and, dividing the project into five separate contracts to minimize inconvenience to the public. The division into five contracts aided in obtaining more competitive bids and allowed concurrent construction of the various segments of the project. The first contract was awarded in October 1968 and was completed in April 1970. Contracts 2, 3 and 4 which were awarded in May 1971 are presently under construction and Contract No. 5 is expected to be awarded in August 1971 with completion by March 1972.

#### 8. Hydraulic-Hydrographic Data Acquisition System

This project was initiated in 1970 with the retention of Control Systems Industries Inc. to, under the direction of the Bureau of Engineering, design a system for monitoring rainfall and sewer flow stage over the City. This monitoring information will be utilized in future design projects to maximize efficiency and minimize costs.

Bids were advertised in 1970 for the installation of a central data processor and recorder, 120 remote stage monitoring stations, and 30 remote raingaging sites. The low bidder was LFE Corp., and installation and testing is in progress at this time.

Basic equipment consists of a Honeywell H-316 computer with peripheral hardware and software to serve as the data acquisition central station, tipping bucket raingages at selected locations and differential pressure monitors located at selected critical points within the sewerage system. Data is telemetered from these remote sites to the central computer for initial processing and recording for further analysis on the City's IBM 360 computer system.

Installation has progressed to where some data from the 1970-71 winter period was available for analysis. Various computer programs are being developed for this purpose.

This system coupled with the other on-going projects will provide the basis-in-fact for the detailed engineering design of the wet weather control system and will also serve as the nucleus of any automated remote sensing and control system. An automated remote sensing and control system would when interconnected to the City's IBM 360 computer system allow maximum utilization of the City's sewerage system. Such maximum utilization could not be achieved without the computer even with unlimited funds and yet this program does not involve any large staff expansion.

The data from a storm on March 12, 1971, was utilized to develop the three symaps (Figures 1, 2, and 3) which illustrate the temporal variation of rainfall intensity on the City. The temporal variation of rainfall intensity when fully developed and collaborated will have a huge impact on the planning and selection of retention facilities to be incorporated in the City's wet weather Master Plan.



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SYNAP

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C RAINFALL ACCUMULATED FOR 3 MINUTES

C ENDING ON DAY 71, HOUR 11, MINUTE 55.

C SAN FRANCISCO DPM STORM ANALYSIS.



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C SAN FRANCISCO OPW STORM ANALYSIS,

### Computer Programming:

In the course of the development of the Master Plan, the dearth of information required to provide the basis for making rational, logical and conclusive judgments on the best courses to follow in the resolution of the problem of control of combined sewage overflows during wet weather, demanded the initiation of a massive data collection effort in all aspects of the system. Large quantities of data were collected and collated in a relatively short time. Past experience in attempting to collect this data manually, and the random, spasmodic nature of the rainfall-runoff occurrence, leads to the conclusion that the data acquisition must be a full-time, dedicated automated effort. The use of a real time data acquisition system results in the recording of large amounts of data, much of which is repetitive, and thus supporting activity must be provided in the form of programming and analysis so that this data can be examined and correlated for meaningful conclusions.

Some of the analysis tools being used for this data are: graphical displays of the time progress of storms across San Francisco; a thus far unverified mathematical model of the sewerage system which will simulate the receiving water response to outputs from the San Francisco sewerage system on the Bay side; and, the development of techniques to analyze the hydrologic-hydraulic inter-relationships in the system.

Similar efforts such as undertaken in San Francisco are underway by other communities including Seattle, Minneapolis-St. Paul, Chicago, and Washington, D.C. Various programs were developed by these communities on an exchange basis. Development of a program bank needed by San Francisco may be developed at the least cost to the City.

Some programs already developed by the Department include:

1. Data acquisition program
2. Treatment Program
3. Symap Program
4. Data Sorting Program

To be developed:

5. Alarm program (detection of flooding system anomalies.)
6. Rainfall progression program

The City is developing a library of computer programs to analyze and help control the problems of water pollution. These programs which are generally in the embryonic stage, at this time, are as follows:

1. San Francisco Hydrological and Hydraulic Data Acquisition and Retrieval System
2. Mathematical Model
  - a. Watershed Model
  - b. Sewer Model
  - c. Quality - Transport Model
3. Treatment Program
4. Hydro Formated Dump
  - a. Hydrograph analysis
  - b. Hycograph analysis

The development and verification of these programs and additional programs are vital tasks in the control of water pollution which is subject to so many variables that human analysis could not be accomplished within the time frame available. At the present time the City is in contact with New York, Seattle, Minneapolis-St. Paul, Chicago, and Washington, D.C. to discuss the exchange of information and computer programs.

### Mathematical Model:

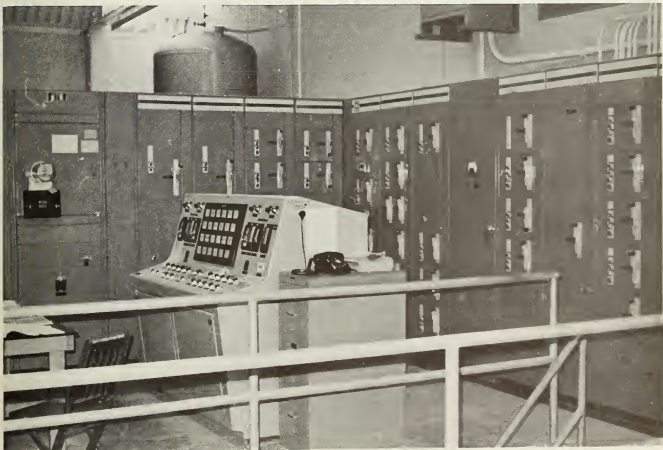
In conjunction with the Hydraulic-Hydrological Data Acquisition System, a mathematical model of the City's sewerage system is under development as previously described. Water Resources Engineers, Inc. of Walnut Creek was retained as consultant for this project. The mathematical model is a computer program which will simulate the quantity of storm water flow and various pollutants generated during a storm.

Presently, the model is in a preliminary stage of development without field verification. It is planned to gather field data from various locations to "tune" and verify the completed model. Data collected from the Hydraulic-Hydrographic Acquisition System will provide a wide base of real information for use in verifying the model. Additionally, the model output will be compatible with the model of San Francisco Bay developed in 1968 under the Bay-Delta Program such that the effects of various control systems upon the Bay receiving waters can be evaluated.

The mathematical model will be capable of forecasting the quantity of stormwater flow and quality parameters. The data collection for verification of the quality parameters or pollutograph was started in 1971.

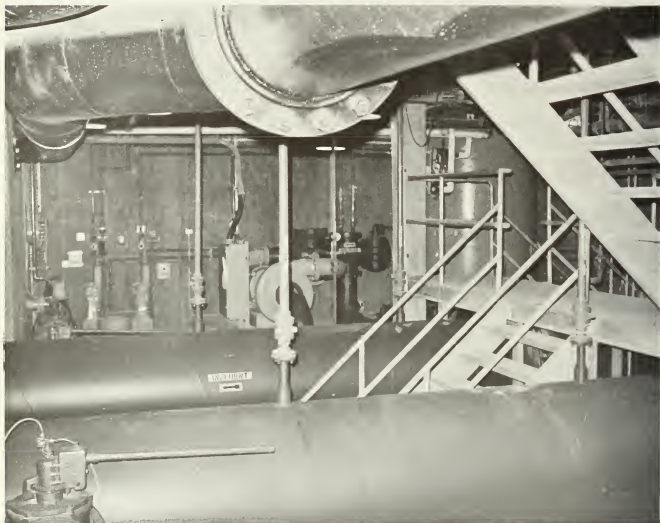
### 9. Baker Street Dissolved Air Flotation Facility

This project which was reported on in our three previous Annual Reports consists of a 320 feet long, 8 foot diameter influent sewer which diverts flow from the old Baker Street Outfall sewer to the plant location at the foot of Lyon Street, the plant itself and a 290 foot long, 9 foot diameter marine outfall pipe. The plant contains 2 flotation units with pressurization, chemical storage and feed system, skimmers, conveyors, bar screens and pumping units, all equipped with manual and automatic controls. Monitoring of certain plan operations and failures at the Army Street Yard was provided for by the installation of a telemetering system.



Instrumentation Console and Electrical Control Equipment

Combined storm water and sewage enters the plant through influent and diffuser pipes into flotation tanks where air bubbles float the suspended particles to the liquid surface and heavier particles settle to the bottom. Skimmers and scrapers pick them up and they are collected and pumped through an 1800 foot long 6-inch force main to the Marina Pump Station for further conveyance to the North Point Water Pollution Control Plant. The remaining cleared liquid is discharged through effluent launders and the outfall pipe some 300 feet into the bay at a depth of 20 feet below mean sea level.



Pump Room. Influent pipes at bottom, scum pipes at top, chemical and recycle pumps in back.

Construction began in February 1970 with completion scheduled for October 1970 to be in time to handle the winter season's storm flows.

The structure required excavation as deep as 30 feet below ground level. An extensive temporary cofferdam of interlocking steel sheet piling braced by heavy duty walers and telescoping steel struts over 100 feet long was installed. Turbine pumps in wells at locations just inside the cofferdam kept the excavation dry at all times over a required five month period. A seven foot thick base slab containing 3500 cubic yards of concrete was poured. A ballast slab was chosen over piles to resist the hydrostatic uplift pressures on the structure. Two large conveyor systems rapidly placed the concrete for the slab in three separate pours. A lean concrete mix was used for this foundation slab to reduce the heat of hydration, its top surface was specially treated against abrasion and attack by chemicals.





**Removal of Old Baker Street Outfall Sewer**

The outfall pipe in the bay was placed on a gravel bed and backfilled with ballast rock topped by a concrete cap; the system is contained within steel sheet piling. Because of low driving resistance encountered during the installation of the sheet piling special precautions were taken in the construction of the outfall. A temporary surcharge was placed inside the sheet piling to consolidate the underlying material and to ascertain if settlement and deflection of sheet piling would be within tolerable limits. This turned out to be the case, the surcharge was removed and bedding, pipe and rock installed and further readings were taken to check if settlement and deflections stayed within design limits. If the loading had produced excessive deflections, traverse tie-struts to tie the two rows of sheet piling together would have been used.

The facility is located in a Recreational area of the City and to complement the beautiful surroundings, a terrace paved with slate was put over the flotation tank areas where people may stroll, sunbathe or watch the view. Equipment above ground level is concealed in planter boxes or under redwood benches. The Control Building itself has an exposed granite aggregate exterior and a copper roof. The site is landscaped and illuminated for night use.

Construction proceeded at a fast pace, tight delivery schedules for equipment from many manufacturers were met, and the project was finished slightly ahead of schedule.



Control Building and Terrace

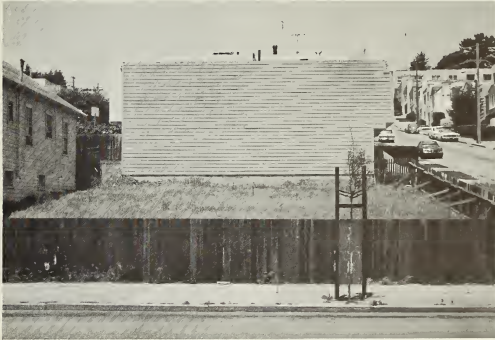
The Facility was brought on line in October 1970 and the post-construction phase of the facility evaluation was begun. Initial difficulties were encountered in operating the facility due to equipment malfunctions under storm conditions. Malfunctions were traced and corrected as they occurred. By January the plant had been checked out and all systems were functional. However, due to the nature of the remaining storms and the way that the interconnected sewers caused the flow thru the plant to be too large or too small, only a few meaningful periods of actual operation were completed. To offset this delay in evaluation, extension tests were run on a pilot scale facility which was temporarily assembled to augment the limited demonstration facility data. Also arrangements were made to operate the demonstration facility under dry weather conditions. All of these operations have been completed and a final report is anticipated in July 1971 at which time results will be analyzed and the future of the process in aiding the treatment of the City's combined storm/sanitary discharges determined.



### C. RECREATION AND PARK ENGINEERING

#### 1. Open Space in Crowded Neighborhoods

The City of San Francisco is building a great number of small park and recreation facilities in high density areas of the City. These parks, called mini-parks, are intended for the use of small children, their mothers and the elderly. They are widely distributed in the older neighborhoods which were developed before the days of dwellings with deep back yards and where public park facilities do not exist or are not readily available.



Mini-Park site at Randolph and Bright Streets



Mini-Park west of Baden St. between Joost & Mangels Avenues

Their purpose is to supplement existing Recreation and Park facilities for those who find it difficult to travel to the larger facilities.

The design criteria forbids buildings in the mini-parks and urges that the development be kept simple, strong and unattractive to vandals. Neighborhood involvement is an essential element to the program.



Mini-Park on Page Street east of Laguna Street



Mini-Park at West Portal of Sunset Tunnel Carl & Clayton Streets

Sites are selected by the City Planning Department in co-operation with the Recreation and Park Department and other City agencies in areas where limited park, playground or schoolyard facilities are available. Vacant lots and unimproved streets where roadway construction is not feasible, are used to avoid relocation, minimize costs and to enhance neighborhood beauty. Public property, such as that under elevated freeway structures or drainage right-of-ways is leased by the City or improved on a permit basis. One site is in an unused space of a branch of the San Francisco Public Library.



Mini-Park on James Lick Freeway Property Utah & 18th Streets



Mini-Park under construction 22nd & Connecticut Streets

On two occasions the design has been performed by a Consulting Landscape Architect, who is a member of the community, on a volunteer basis at no cost to the City.

Funds for this work are derived from three sources: The United States Department of Housing and Urban Development with matching funds from the City, the United States Department of the Interior, Bureau of Outdoor Recreation with matching City funds; and the United States Department of Housing and Urban Development Beautification Grant.



Mini-Park at Lamartine Street between Cayuga Ave. and Alemany Boulevard



Mini-Park on Eugenia Avenue east of Prentiss Street

At the present time nine mini-parks have been completed as shown in Table I. Table II shows those in progress or under design:

Table I

Location	Cost
Potrero Hill (22nd and Connecticut)	\$12,378
Sunnyside, Mission Terrace, Peralta Heights, and Richmond District }	41,999
Bernal Heights (Eugenia Avenue)	23,834
Potrero Hill (Utah and 18th Streets)	8,365
Page and Laguna Streets	17,823
Clayton and Carl Streets	19,078*

\* Including P.U.C. work

Table II

Location	Cost
Palou-Selby and Phelps-Palou	\$37,337 Bid
Campbell Avenue, } Bush Street }	63,500 Bid
Lessing and Sears Street	12,000 Estimate
Howard and Langton Streets	26,000 Estimate
Randolph and Bright Streets	9,100 Estimate
24th Street near York Street	20,400 Estimate
Seward Street	30,000 Estimate

## 2. Christopher Park

Christopher Park, in the Diamond Heights Redevelopment area of San Francisco, is named for former Mayor of San Francisco, George Christopher, and is one of the major Recreation and Park facilities in the City. It is planned as a part of the broad band of parks known as the Green Belt which will eventually traverse the entire City.

When the San Francisco Redevelopment Agency proposed the Diamond Heights area redevelopment, the Recreation and Park Commission declared its intention to acquire property for recreation and park purposes. In 1960 an agreement was entered into between the two agencies for the land to be developed.

The park site, bounded by a school, a church, a shopping center, a residential area, and the City's Green Belt, is a filled area constructed during the redevelopment of Diamond Heights in 1960 and has limited access to public streets. Despite design problems caused by winds, limited access, and steep perimeter grades, an interesting and useful park has been developed. Included in the Park is a baseball field, tennis court, tot lots, recreation building, golf putting greens for practice, shaded paths and trails, and areas for more passive pursuits such as enjoyment of the scenery in Glen Canyon.

The Contract to construct the park started on March 25, 1970, and was completed on January 19, 1971. The Contract was awarded to the lowest of 9 bidders, Huettig & Schromm, Inc. of Menlo Park, California for \$443,000. Final cost was \$444,911.11.



This photograph taken on the first day of work, and as required by the Contract, the Contractor installed grading stakes shown in the Amphitheater area.





The Amphitheater area at the end of October 1970 shows the completed Amphitheater, the completed lawn and shrubbery, as well as the play equipment installed as part of the project. Interestingly, even prior to the completion of the installation of the play equipment, the children of the area were making maximum use of this playground. In the left foreground of this photograph is a welded flat iron trash can holder which will hold a 50 gallon trash drum, to be installed at various locations throughout the park, in an effort to maintain the park in a clean condition.



Photograph No. 3 shows the site of the baseball playing field on the first day of construction.



This panoramic photograph, taken at the end of July 1970, shows the progress of the work after the completion of the rough grading operation. The posts for the protective cyclone fencing around the baseball diamond have been installed but not yet plumbed.





This photograph taken from generally the same view as the preceding photograph, shows the baseball playing field after the completion of the sodding and irrigation work in the ball diamond area. The sprinkler heads are a full 12 or 18 inches above the finished grade of the lawn. Prior to the acceptance of the work these heads were lowered to the finished grade in the play area, but during the maintenance period for the sod, were kept at a higher elevation in order to insure adequate watering during the lawn establishment period. All of the heads in the lawn area were topped with a soft rubber retractable head, which, when the sprinklers were not in operation, lie flush with the lawn, and would protect anyone that might fall on one. Although they are not easily discernible from this photograph, a substantial number of shrubs, bushes, and trees were planted on the far slope to prevent erosion of the hillside, add to the scenic beauty of the area, and reduce the effects of the prevailing west wind.



The above photograph taken at the end of August 1970 shows the baseball playing field during the installation of the sprinkler laterals which were installed under this contract, by the Broadway Plumbing Company. This sub-contractor became involved in a jurisdictional dispute between certain craft unions, as to who should be allowed to install the plastic lateral piping. The resulting wild-cat strike shut down the entire job for two (2) weeks, and was finally resolved amicably by the good offices of the National Labor Relations Board. The use of plastic piping is a relatively new procedure in Department of Public Works Contracts, but in the installations completed to date, they have functioned satisfactorily.



The above photograph shows the completed park in the same area as the preceding photograph. The trees planted under this Contract, are discernible in this picture. The specifications required an installation of a sod lawn, rather than a seeded lawn, and as shown, the results were excellent.



View of Christopher Park Children's Play Area and Fieldhouse from Gold Mine Hill.

### 3. Lake Merced Shoreline Development

Development of the isthmus between the northern part of Lake Merced and the southern part is underway. When completed, the facility will provide a kaleidoscope of recreational activities which include parking for boat trailers parallel to a roadway which flows in a long graceful configuration camouflaged in a park-like area of trees, fishing piers, picnic areas, facilities for more passive pursuits and a way-station for bicyclers.



Lake Merced Harding Blvd. parking area



Lake Merced North Lake Fishing Pier & Beach



Lake Merced Picnic Areas under construction

The work is rustic in design to blend with the natural appearance of the area. New signs call attention to the redefined entrance to Lake Merced Sports Center and Harding Park Golf Course. Parking is being provided for cars and boat trailers along a landscaped park way road. Provision is made for a way station where bicyclers can rest and refresh themselves. A system of paths leads



from the parking area to picnic areas, fishing piers and the shoreline. The hard flat ground is being softened by mounding and overall shaping. Grass and trees will redefine the area. The objective in planning is to create a natural area where people can escape the monotony of the ordinary urban area.

Historically, the Lake was discovered in 1759 by a Spanish exploration party led by one Don Bruno de Haceta on the Day of our Lady of Mercy. Don Bruno named the lake "La Laguna de la Madonna de la Merced" in honor of the Madonna. In 1859 David Broderick, a free-labor Democrat was slain in a pistol duel with Judge Terry, a southerner, on the south shore of the Lake. Broderick's death made a symbol of his cause and did much to influence California sentiment against slavery.

Around the turn of the century this area was planted with a stand of pine trees which became one of the finest in the Bay Area. At the time of the "mini-car" fad these trees were removed under the pressure of the rally-car enthusiasts to be replaced by an oval to accommodate the "sport." It is expected that one of the results of the project will bring back the former natural atmosphere.

The future plans provide for more extensive development of the shoreline in much the same manner as the present development and the further development of the bicycle trail around the lakes. To be preserved in the future development of the south end of the lake is the resting place of the wild canaries and other species which seasonally visit in their flight along the Pacific Shorebird Flyway.

The project is financed by the State of California Resources Agency through the 1964 Bonds. The lake and the surrounding lands are property of the San Francisco Water Department with the surface development by the Recreation and Park Department.

## D. STREET BEAUTIFICATION PROGRAM

### 1. Pine Street Sidewalk Narrowing Gough Street to Presidio Avenue

The seemingly inexorable increase in private automobile traffic has created crisis conditions in many urban areas and San Francisco has not been exempt from this situation. Pine Street west of Van Ness, used as a major evening commute corridor, has frustrated homeward bound office workers over the years. A number of traffic expediting techniques have been implemented including phased traffic signals, conversion to one way flow, and prohibited curb lane parking. However, these devices have not been adequate to meet traffic demand and increased capacity was indicated. A sidewalk narrowing project was initiated in order to provide the required street capacity. The initial phase of this project, from Franklin Street to Gough Street was completed in 1966. The final phase, from Gough Street to Presidio Avenue was completed in November 1970.

After the initial project investigation had taken place it was decided that an entire street reconstruction would be necessary because of deteriorated pavement conditions and cross-sectional grade differential problems. Other work in the project included replacing a portion of the existing sewer in the street, removing the overhead utility wires, and installing new street lights, fire alarms and traffic signals.

Reconstruction of the entire width of the street produced some problems of its own; the main one being how to accomplish this work with the least possible disruption to traffic and area residents and still have it done at a reasonable cost. The controlling factor in this regard was the requirement to maintain 3 traffic lanes for the evening peak hour traffic from 4:00 P.M. to 7:00 P.M. during the entire construction period. In order to comply with this requirement, it was

necessary for the Contractor to remove only as much roadway pavement as he could restore before 4:00 P.M. each working day. In order to complete the work within these constraints the Division of Streets and Highways collaborated closely with the Division of Construction in developing a contract specification incorporating rigid traffic controls coupled with some new construction techniques. The central feature of this specification was the utilization of a "full depth" or "deep lift" asphalt pavement cross section.

The "full depth" aspect of this type of pavement design is essentially a substitution of a single asphaltic concrete base material in lieu of a greater thickness of aggregate base or cement treated base materials. The deep lift construction permitted the placement and compaction of this material in one 8" layer rather than the three or more layers which are conventionally specified.

The advantages of this type of construction are obvious. The thinner section requires less excavation and produces fewer utility conflicts than normally would be encountered. The resultant savings in time, when coupled with single lift construction, permitted the Contractor to perform four distinct operations over the length of one block and still open the street to traffic at 4:00 P.M.

The Contractor's operation began at daybreak using two truck mounted "Gradalls" for pavement excavation. As soon as pavement was removed in the intersections, Water Department and other utility crews would move in and adjust their facilities to conform with the new grade. After the pavement excavation was well started a motor grader would shape the subgrade to the desired cross section. The Contractor would then compact the subgrade and the Materials Laboratory would check its relative compaction using a "wet" density technique developed especially for this project to give "on the spot" results.



Simultaneous excavation of existing pavement, preparation of subgrade and construction of asphalt concrete base



Excavation preceding just ahead of the placing of asphalt concrete base



Placing asphalt concrete base with a motor grader



The first trucks would then arrive with the hot asphalt mix which would be dumped and bladed to a uniform 10" thick course. The Contractor provided one vibrating roller to compact the asphalt. At this point in the normal day's operations, all operations; excavation, compaction of subgrade, spreading and compacting asphalt were going on simultaneously. By 4:00 P.M. the Contractor completed the rolling of the asphalt and the street would be opened to traffic. Proceeding in this manner, the Contractor was able to reconstruct one block of roadway between 6:00 A.M. and 4:00 P.M. in a typical day.



Vibrating roller compacting asphalt concrete base

Since the equipment and procedures used by the Contractor were unique, a periodic check of the density of the asphalt was performed on core samples taken from the pavement. All samples showed adequate compaction throughout their length.

The wearing surface placed later by paving machine averaged 2-inches in depth. While deep-lift asphalt construction had been previously used on two small projects, Pine Street was the first major project in San Francisco to be constructed using this method. The Contractor's inexperience with this type of construction and the haste with which the traffic routing specifications required him to work combined to produce a riding surface which was in some areas less than optimum.

In future projects, there will be emphasis in the specifications on obtaining a base course with minimum deviations from true grade.

However, on balance the project was successfully completed and the Contractor finished his work in 2 months less than the 9 months construction time allowed, a significant reduction in confusion and inconvenience for many thousands of motorists.



Before



After

## 2. Mission Street Reconstruction at 16th and 24th Street Bart Stations

The official starting date for the Reconstruction of Mission Street, in the vicinity of the BARTD Stations, 16th & 24th Streets, was July the 18th, 1970. (The design portion of this project was described in the 1969-70 Annual Report.) The lowest Bidder was a Joint Venture of Flora Crane Service, and Homer J. Olsen Co., at a price of \$592,000. The basic scope of the work to be performed under this project, was to reconstruct four (4) blocks on Mission Street, in the vicinity of the two newly completed BARTD Stations. It was anticipated that this project would be a prototype for the Market Street Reconstruction to be constructed, upon the completion of the BARTD work in that area.



Condition of the sidewalks at the time of the start of this contract, in the vicinity of each of the BARTD Stations. The sidewalk was replaced by the BARTD contractor with temporary Asphalt Concrete Wearing Surface. This four (4) inch asphalt pad was installed on top of a permanent concrete sub-base which was later utilized as part of the beautification project.

East side of Mission Street on August 25th 1970, in the vicinity of the 24th Street BARTD Station. Prevailing traffic conditions on Mission Street at any time are heavy, and it was necessary to maintain this traffic during the entire life of the Contract. The pavement breaker is opening a trench for the installation of the automatic sprinkler system for each of the trees, which were later installed on Mission Street. The primary reason for routing the irrigation system under the pavement, rather than under the sidewalk was because of the special sidewalk tile paving which would not have to be disturbed in case of maintenance of the irrigation mains.





The above pictures should be examined simultaneously as they were both taken on February 26, 1971 in the same area, which is midway between 15th and 16th Streets on the west side of Mission Street. The concrete sidewalk pavers, manufactured by the Basalt Rock Company, were installed for almost the entire width of the sidewalk, and it was therefore necessary to reroute the



pedestrian traffic into the curb lane of the street. In addition to the regular barricades, flasher-lights and high-rise flagging system, the Contractor employed the novel method of parking a series of pick-up trucks to protect the pedestrian traffic as they walked in the street area.

After the removal of the temporary asphalt concrete sidewalk and before the placing of the paver blocks the Contractor placed 4 x 8 plywood sheets over the sidewalk area to provide a safe temporary sidewalk. After the completion of the installation of the concrete block pavers, and the red and blue glazed ceramic tile trim, the Contractor then excavated the tree holes.



The reason this palm tree appears taller than the adjacent street light, is because it is. The palm trees specified were 25 feet tall and presented a substantial challenge in shipping, maintaining and placing of such mature palm trees. The trees were personally selected by the City's Landscape Architect in Needles, California and will eventually drop the brown fronds seen in the middle of the picture.



This picture gives a good indication of the girth of the palm trees and the precision with which the trees must be placed in the holes. The root ball of this tree was 4 feet in diameter and was placed on the especially prepared fertilizer mix, previously installed in the hole.

In the foreground is an exposed concrete base pedestal for some of the street furniture which was later installed at this location. Shown at the extreme left of this photograph is Mr. Don Head, Consulting Architect from Urban Design Associates for this project, and in the center of the photograph is Mr. Robert Flora, the principal of Flora Crane Service.



East side of Mission Street, south of 24th Street in late May, 1971 showing the palm trees after installation. It also indicates the extent of the glazed tile and concrete tile paver installation in the sidewalk. The sheet of plywood and barricade between the two palm trees in the foreground covers a hole where a Victorian Box Tree is to be planted.



The Victorian Box Trees are not as substantial as the adjacent 25 foot palm trees, but nevertheless, they were 15 feet tall at the time of planting. Each of the tree pits are supplied with their own automatic sprinkling system, individual indirect lights and pre-cast concrete tree rings.



The final installation of the sidewalk furniture. The kiosk shown in the center of the photograph was constructed of clear heart redwood as was the vine trellis between the benches.





A detail of the indirect lighting system incorporated into the poster kiosks.



This photograph details the Port Orford Cedar benches installed under this contract. This material is extremely effective in resisting splintering, and consequent damage to clothing and to children.

This photograph also points up the detail of the glazed tile and concrete block paver installation in the pedestrian walkway area.

At the date of this writing no vandalism has been experienced on this project.

### 3. California Street Pavement Reconstruction

The curbs, pavement and sewer on California Street between Kearny Street and Mason Street were reconstructed in the fall of 1970 by McGuire and Hester, City Contractor for the project. The project site traverses through three districts, the Nob Hill, the Chinatown and the financial districts, each with a heavy concentration of pedestrian and vehicular traffic.

An important feature of the work was the lengthening of the vertical curve at the Stockton-California intersection. This improved the riding quality of the intersection and extended the sight distance for eastbound California Street traffic turning left into Stockton Street.

This change of grade required the reconstruction of a portion of the California Street cable car track. With the cooperation of the Muni Railway, the lowering of the cable car tracks and yoke structure was included in our contract.

The cable car track work necessitated the shutdown of the cable car operation because of the inflexible operating characteristics of the cable cars. However, this shutdown was a bonanza in easing the phasing of the construction work. The reconstruction of the pavement, the replacement of the sewer and the lowering of the water main by the San Francisco Water Department were accelerated and completed within the four months shutdown period. Had the cable car line not been shutdown, the construction duration would have been eight months.

### 4. Lake Merced Boulevard Rechannelization

Lake Merced Blvd. at Brotherhood Way was rechannelized to reduce accidents and relieve traffic congestion by providing a left turn lane and an acceleration lane on the westerly side of Lake Merced Blvd.



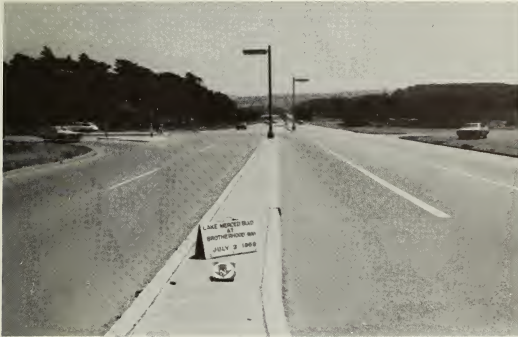
Lake Merced Boulevard  
Before

Lake Merced Boulevard  
After



In addition, the entrance to the parking area on the lake side was moved northerly and the former access to the parking area opposite Brotherhood Way was eliminated.

New street lights and an irrigation system were installed under the rechannelization contract. Landscaping of the intersection will be done under a separate contract.



**Lake Merced Boulevard  
Before**



**Lake Merced Boulevard  
After**

### 5. Crestmont Drive Extension

Crestmont Drive was extended to open the view area overlooking Golden Gate Heights and the Sunset District for development on the slope of Mount Sutro. This project was constructed with the cooperation of the Regents of the University of California in the design of the aesthetic stepped type retaining wall which was constructed along their property.



## E. GENERAL ENGINEERING SERVICES

### 1. Advent of Schedule Board

In an effort to schedule, coordinate and budget the many Bureau of Engineering projects more effectively and to increase the credibility of planned advertising dates, the Administrative sections of the General Engineering Services Division have designed and installed a multi-colored "Situation Board" in the Bureau. The "Situation Board" is a visual display of the Bureau's existing project design program and enables the management to analyze instantly the anticipated work load for the next three years, including the scheduled month of advertising, the type of project (sewer, street, park, etc.) and the source of funding.

To provide uniform control and communication, a system has been initiated to supplement the "Situation Board" in order to notify all divisions of the Bureau, as well as to the governmental agencies and utilities upon any anticipated scheduling change approved by the City Engineer.

As the Bureau's work becomes increasingly complex and the requirements of other governmental agencies at the federal, State and regional levels become more stringent, it is essential that we keep pace by providing the management tools needed for efficient planning and decision making.

### 2. Street Lighting Improvements

The improvement of the City's street lighting system continued during the year. A total of 23 contracts were finished during the year with the distribution of street lights as shown in Table I.

TABLE I  
Street Lights Installed During 1970-71

	Number Street Lights	Miles
New Underground Districts	277	4.72
Replacement of Obsolete Systems	299	4.98
New Street Lighting Systems	16	.31
Totals	592	10.01

As usual, total crime continued to increase but the ratio of night to day crime continues to decrease as more street lights are installed. The trend for the entire City is shown in Figure 1.

As a verification of the City-wide trend, we compared the crime statistics for a group of neighborhoods where new lighting was installed early in the program as a result of serious complaints. These data are summarized in Table II.

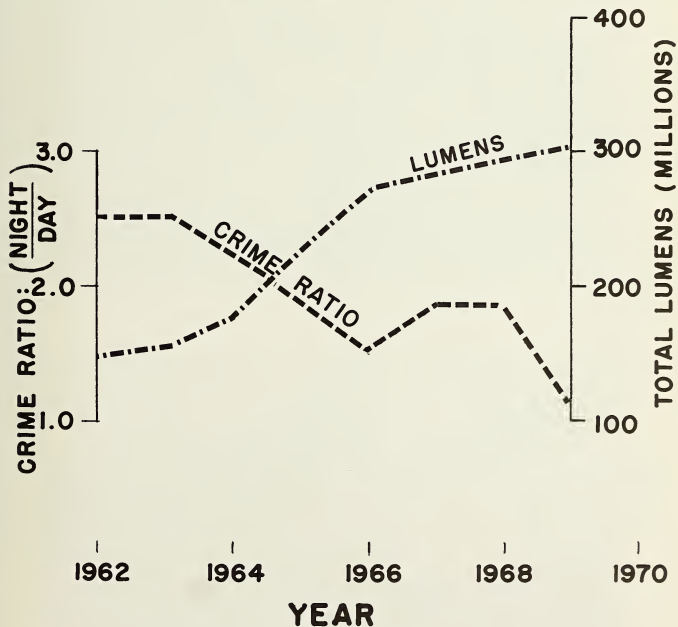
TABLE II  
Night/Day Crime Ratio

Area		Ratio
Tenderloin	7-Year Average Before Lighting Improvement	4.2
	2-Year Average After Lighting Improvement	2.6
Sunnydale Housing	6-Year Average Before Lighting Improvement	3.6
	3-Year Average After Lighting Improvement	1.1
St. Mary's Park	5-Year Average Before Lighting Improvement	5.4
	4-Year Average After Lighting Improvement	0.8
Westwood Park	4-Year Average Before Lighting Improvement	1.8
	5-Year Average After Lighting Improvement	0.9

In each neighborhood, there has been a substantial decrease in the night/day crime ratio. It is probable that factors other than lighting are involved in the decrease but the correlation is striking.

FIGURE 1

# SAN FRANCISCO STREET CRIME & STREET LIGHTING





### 3. Gilman Avenue Pedestrian Overpass

The pedestrian overpass is located at Gilman Avenue at Griffith Street and serves the local community as a viaduct to Gilman Playground and Bret Harte Elementary School over a heavily traveled approach-way to Candlestick Park. The foot bridge consists of two non-prismatic cantilever prestressed concrete girders hinged at the center of a 90 foot center span. The structure is unique because the girders were designed and constructed continuous with the helical approach ramp at each end.



Completed pedestrian overpass



Placement of precast-prestressed 72 ton girder

The two girders were precast-prestressed, placed in position without disruption of traffic by placing temporary cable tie-downs until continuity connections were completed.

Analysis of this intricate structure employed computer techniques that were developed by the personnel in the Structural Section of the Department of Public Works.

Construction was completed in January 1971.

#### 4. Master Plan for Improving AWSS Facilities

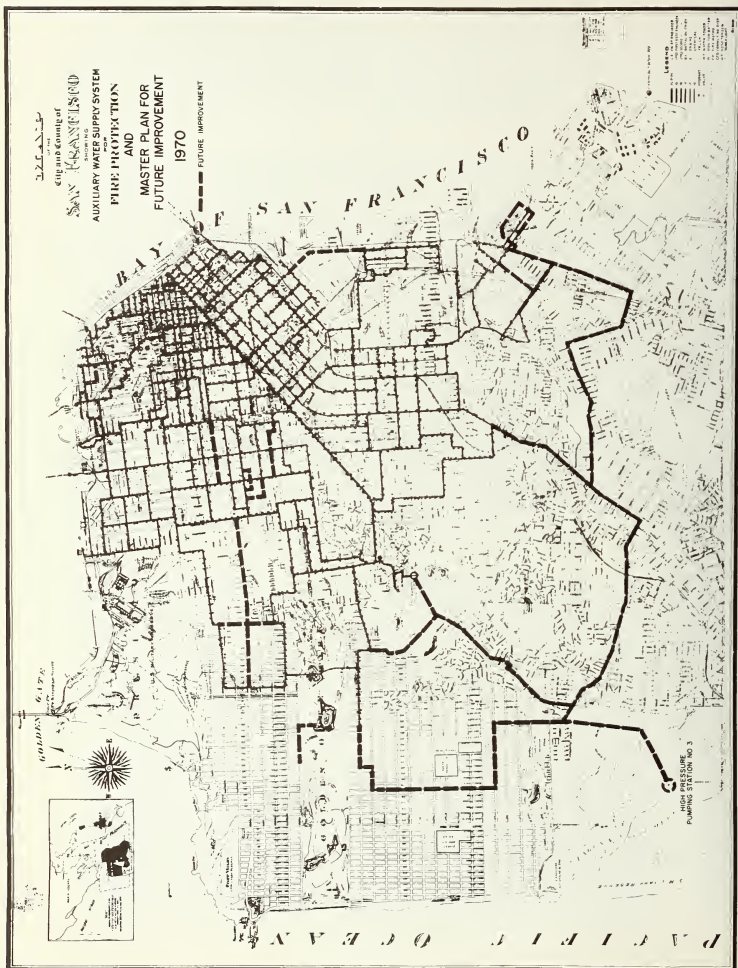
The Bureau has been engaged in the development of a master plan for improvements to the Fire Department's High Pressure Water Supply System, a system which has been acclaimed as one of the strongest water supply systems for fire protection in the nation.

The master plan was initiated by the Fire and City Planning Departments, and it was developed to update fire-fighting facilities in the light of experience and development of the City, both for everyday fire-fighting and for possible disaster protection, and to ensure the City's favorable insurance climate. Guidance in selecting the improvements to water supply systems was obtained from the 1966 Fire Underwriter's Report on San Francisco and from hydrant flow deficiencies observed during their tests.

The 1971 Bond Issue to Improve Fire Protection Systems and Equipment, which is expected to be placed on the ballot this November 2, 1971, is the first phase of the master plan of improvements. The 1971 Bond Issue will primarily strengthen water supplies in the general area currently served by the system. The existing high pressure pumping stations will be converted from steam to diesel operation in order to improve their reliability and operating economy; several underground gate valves will be motorized for push-button operation, deficiencies in existing facilities will be corrected, and new high pressure mains and hydrants will be installed in various locations.

In addition, the Bond Issue contains an item for improvements to the Low Pressure Water Supply System, an item for the purchase of new fire-fighting equipment for suppressing fires, and the installation of a Command and Control System which would modernize the current method of receipt and dispatch methods and equipment, and alter the manner of unit control for all fire-fighting divisions.

The master plan for development of the system contemplates extensions of coverage throughout the industrial and commercial areas of the east side of the City south of Islais Creek, the high-value districts west and southwest of Twin Peaks, and in the neighborhoods of hospitals, medical centers, and large educational institutions. Access to the great reserve of non-salt water in Lake Merced will be provided by a pumping station, and a conflagration barrier will be extended across the residential districts in the southern and western sectors of the City.



## 5. Market Street Reconstruction Auxiliary Water Supply System

Due to the construction of Bay Area Rapid Transit facilities, including underground stations and tunnel sections and the reconstruction and beautification of Market Street, it has been necessary to relocate and improve the existing Auxiliary Water Supply System (High Pressure Fire Protection System) in Market Street. This has presented a particularly difficult problem. The high pressure main which runs the entire length of the street, is the backbone of the High Pressure Fire Protection System downtown, and contains some of the largest and oldest pipe in the system. All the hydrants and almost half of the main piping are affected by the new sidewalk configuration and must be relocated to conform to the new curb lines. It is also highly desirable that the rest of the mains be upgraded in reliability so that openings of the new pavements for repairs and maintenance will be minimized and, hopefully, will be avoided indefinitely.

It is well known that many blocks of lower Market Street are on old fill material over deep bay mud in what was Yerba Buena Cove 125 years ago. Less well known is the fact that several middle blocks of Market Street are located in areas of water bearing sands and former swamps through which Hayes Creek ran toward the bay. The AWSS pipeline in all such blocks has been exhibiting distress symptoms in joints and valves because of irregular settlement patterns of the "infirm ground." Construction of BARTD Stations and boring of the tunnels under the street between stations was the final critical factor, however. Subsidence of the street surface ranged from spectacularly large, resulting in complete failures of the pipeline, to insignificant, which did not allay suspicions that the buried pipeline may be damaged anyway.

The program devised to accommodate all these factors is:

A. Where required by the new curb configuration, construct new main in the roadway at the City's expense and abandon the old main under the sidewalk. Modern pipeline technology makes this more economical than relocating existing pipe.

B. Where existing main is acceptably located in roadway over transit station areas, remove it to permit station construction and then replace it with new main.

C. Where existing main is acceptably located in roadway between Transit Stations expose all joints, test for misalignment and leakage, realign and recaulk as necessary to the bottle-tight condition which existed when it was first installed 60 years ago. It was agreed with BARTD to share this expense equally between BARTD and the City, it being assumed that a given defect is attributable to either gradual deterioration of the City's sixty-year-old installation or the activities of the BARTD's tunnelling contractors, but cannot definitely be attributed to one or the other.

Up to the end of Fiscal 1970/71, \$1,912,000 of the work has been done by BARTD contractors in the Transit Station areas and west of Van Ness Avenue, of which the City furnished \$155,000 for the additional costs of pipeline relocations under Item A above. The amount of \$976,000 is projected for City contracts between Transit Stations in the near future, of which BARTD will furnish \$156,000 for its share of the cost of pipeline rehabilitation under Item C above.



10" AWSS Cast Iron Pipe removed at Powell & Mkt. for Reinstallation after cleaning



## 6. Bureau Standard Specifications

During the 1970-71 fiscal year the Bureau completed the preparation of, and had printed, a new edition of the Bureau of Engineering Standard Specifications, effective on contracts advertised for bid after June 1, 1971. These Standard Specifications supersede the 1965 edition, supplies of which were exhausted.

The new Standard Specifications contain considerable new material, as well as extensive updating and revision of contractual and technical provisions. Administrative and supplemental requirements that up to now have been in the Special Provisions, are included in the new edition.

Requirements for excavation, backfill and embankment have been incorporated in a new part of the Specifications.

Virtually complete specifications for street lighting and traffic signal work have been included.

Modern, trailer type field offices are now required.

It is felt that these Specifications, updating, combining and reconciling previous requirements, will make for better contracts, and save time and money both in bidding and construction.

The loose-leaf binder form of the new edition of the Standard Specifications makes possible the insertion of revisions. It is planned to update these specifications on a yearly basis by the issuance of loose-leaf pages incorporating revised and additional material. It is anticipated that the updating will enable the Bureau to use this edition for 10 years and will provide the convenience and economy of not including lengthy specification revisions in Special Provisions. Purchase of the Standard Specifications includes a postcard which the City will use to notify each purchaser of the Specifications of revisions thereto.

## 7. Inclusion in City Contracts of the Support, Working Around and Protection of Utility Company Facilities

The Public Works Code provides that public utility companies and City departments performing proprietary functions, owning or controlling utility facilities in public streets, are required to remove or adjust their facilities so as to permit the work of the City's public works contractor to proceed without interference.

Pursuant to a resolution adopted by the Board of Supervisors to avoid delays caused by this removal or adjustment or by allowed alternative procedures, the Bureau of Engineering participated in the writing and negotiation of a joint agreement and contract procedure, now fully executed, between the City and utility companies and City public utility departments. The agreement allows the companies and City departments to include in City public works contracts requiring trench or other excavation in public streets, the work of supporting, working around and protecting their facilities existing within the volume of such excavations, and specifies payment by the companies and departments adequate to compensate the City for the additional work performed by the City and by the City's Contractor.

The Bureau also developed the required administrative procedures and specifications to implement the incorporation of the above work in City public works contracts.

Difficulty was experienced, however, in implementing the agreement and contract procedure in that the method of payment by the utility companies and City public utility departments outlined in the executed agreement does not require that funds for the estimated support, work around and protect work for the utility companies and departments be on deposit in the



City's treasury prior to certification of the contract. The agreement as executed is, therefore, not completely acceptable to the Controller and will be modified to include the necessary requirements.

As a result of cooperative efforts by the Bureau, and by the utility companies and City public utility departments in transferring to the City's Treasury the required funds covering their work so that the Controller can certify the contracts, the work of supporting, working around and protecting utility facilities is currently being accomplished under and without delay to the City's contracts.

## DIVISION OF SURVEYS AND MAPPING

### Subdivisions and Street Changes

Table 1-A

#### PARCEL MAPS APPROVED AND RECORDED

Portion of Block 1929-A Golden Gate Heights  
Portion of Block 3033 and all of Block 3034 Map of Mira Glen  
Portion of Block 129 Superior Homestead Association  
Portions of Assessor's Blocks 2636 and 2638  
Portion of Assessor's Block 7539  
Portion of Block 2 Paul Tract Homestead Association  
Portion of Potrero Nuevo Block No. 368  
Gold Mine Hill Homes - Unit No. 3- Diamond Heights Redevelopment Project  
The New Hunters Point Community - Unit 1.

#### RECORD OF SURVEY MAPS EXAMINED AND RECORDED

Lot 31, Block G, Silver Terrace Partition  
Lot 14, Block 559, Bay Park Homestead Association  
Assessor's Lot, 26 Block 2933, Lake View  
Ferry Port Plaza Site - The Embarcadero - Piers 1,3,5 and 7

#### STREET DEDICATION MAPS APPROVED AND RECORDED

New Hunters Point Community Unit 1  
A portion of Hayes Street at Market and Larkin Streets  
A portion of Maggie Alley Easterly of Jones Street

#### STREET VACATIONS APPROVED

Portion of Everson Street South of Digby Street  
Portion of Merchant Street between Montgomery and Sansome St.  
Portion of Innes Avenue within the Hunters Point approved Redevelopment Project Area  
Portion of Hudson Avenue within the Hunters Point approved Redevelopment Project Area  
Portion of Galvez Avenue within the Hunters Point approved Redevelopment Project Area  
Portion of Keith Street within the Hunters Point approved Redevelopment Project Area  
Portion of Trenton Street and James Alley South of Jackson Street  
Portion of Red Rock Way within the Diamond Heights approved Redevelopment Project  
Area B-1

Portion of Donner Avenue Southeasterly of Third Street  
 Portion of Larch Street within the Western Addition approved Redevelopment Project  
     Area A-2  
 Portion of Byington Street within the Western Addition approved Redevelopment Project  
     Area A-2  
 Portion of Folger Alley within the Western Addition approved Redevelopment Project  
     Area A-2  
 Portion of Fourth Ave. between Parnassus Avenue and Kirkham Street  
 Portion of Redwood Street within the Western Addition approved Redevelopment Project  
     Area A-2  
 Portion of Ash Street within the Western Addition approved Redevelopment Project Area A-2  
 Portion of Tehama Street within the Yerba Buena Center approved Redevelopment Project  
     Area D-1  
 Miles Street Northerly of California Street  
 Portion of Lane Street within the Hunters Point approved Redevelopment Area  
 Portion of Keith Street within the Hunters Point approved Redevelopment Area  
 Portion of Ecker Street between Market Street and Stevenson Street

#### CHANGES IN OFFICIAL WIDTHS OF SIDEWALK

Post Street, Northerly Side, between Market and Montgomery Sts.  
 Geary Boulevard, Southerly Side, between Cleary Court and Gough Street.  
 Malvina Place, Southerly Side  
 Fifteenth Street between Folsom and Harrison Street  
 Precita Avenue between Mission Street and Coso Avenue  
 Powell Street between Sutter and California Street  
 Winfield Street between Cortland Avenue and Esmeralda Ave.  
 Geary Boulevard between Lyon Street and Wood Street

### FIELD SURVEYS

Table 1-B

#### NUMBER OF SURVEYS

A total of 246 field surveys, undertaken and completed by the six survey parties of the Division's Field Engineering Section, comprised the following:

##### Public Improvement Surveys for:

Public Assessments and Private Contracts . . . . .	8
Contracts Financed by City . . . . .	238

##### Site and Lot Location and Topographic Surveys for:

Bureau of Architecture . . . . .	5
Recreation and Park Department . . . . .	9

Survey fees received by the City from Public Assessment and Private Contracts total \$6,800.

## EXTENT OF SURVEYS

The aggregate length of field surveys completed totaled 67.8 miles, in addition to which 489.4 acres of topographic surveys were completed. The aggregate length comprised the following:

## Design, cross sections:

Streets, sewer and drainage . . . . .	5.6 Miles
---------------------------------------	-----------

## Construction, line and grade:

Sewage and drainage systems . . . . .	6.6 Miles
Street grading . . . . .	2.6 Miles
Pavements and curbs . . . . .	6.2 Miles

## Reconstruction, line and grade and cross sections:

Pavements and curbs . . . . .	9.7 Miles
-------------------------------	-----------

## Block, Site and Lot surveys:

Lot (boundary lengths) . . . . .	1.4 Miles
Block resurveys (frontage lengths) . . . . .	0.6 Miles
Reference Surveyor's marks (frontage lengths) . . . . .	0.2 Miles

## Post-construction examination of:

Street grading . . . . .	0.3 Miles
Sewer and drainage systems . . . . .	0.2 Miles
Pavements and curbs . . . . .	0.6 Miles
Miscellaneous surveys (not included above) . . . . .	8.9 Miles
Monument lines checked . . . . .	5.4 Miles
Monument lines set (new) . . . . .	3.0 Miles
Subsidence areas . . . . .	10.3 Miles
Slide areas . . . . .	6.2 Miles

In addition to the aforementioned checking of existing monument lines, survey monuments were set or reset and 134 monuments were examined, repaired or referenced.

Precise level bench marks were established and elevations on existing bench marks checked at 504 intersections, which required the running of approximately 47.6 miles of precise level networks.

## MISCELLANEOUS SURVEYS AND STUDIES

Table 1-C

## SURVEY PLATS PREPARED

Golden Gate Park - 6th Ave. between Fulton St. and J.F. Kennedy Dr.	Topographic Survey			
South Park - between 2nd and 3rd Sts.	"	"	"	"
John Muir Trail in Golden Gate Park	"	"	"	"
Animal Hospital - Proposed Site - San Francisco Zoological Gardens	"	"	"	"
John McLaren Park - Amphitheater Parking Lot	"	"	"	"
NPWPCP - Effluent Outfall Extension	"	"	"	"
Chinese Playground - Sacramento St. between Pagoda Place and Waverly Place	"	"	"	"
Howard and Langton Streets	Boundary and Topographic Survey			
Fire House Engine No. 36	"	"	"	"
Columbus Elementary South Site for Proposed Addition	"	"	"	"
14th Ave. and Quintara St. - Portable Classroom Site	"	"	"	"
South School Property - Vicinity of Oakdale, Palou Aves., Keith and Jennings Sts.	"	"	"	"
Fire House Engine No. 37	"	"	"	"
Army St. Circle - Contract No. 5 Pedestrian Overpass at Army and Hampshire Sts.	"	"	"	"
Lessing and Sears St.	"	"	"	"
24th St. between Bryant and York St.	"	"	"	"

## OTHER MISCELLANEOUS STUDIES

More than 40 miscellaneous drawings were prepared and studies were made in connection with property acquisitions and dispositions; street openings, widenings, and vacations; and easement acquisitions and abandonments.

More than 15 reports regarding City interest in actions to quiet title were made to the City Attorney's office.

Eleven appeals from decision of the City Planning Commission were checked to determine whether the signatures thereon represented at least twenty percent (20%) of the areas within a radius of 300 feet of the property involved so as to qualify the appeals for consideration by the Board of Supervisors.

One hundred fifteen (115) legal descriptions for deeds to and from the City involving the Department of Public Works and other Departments were prepared and checked.

## DIVISION OF TRAFFIC ENGINEERING STATISTICS

### PARKING METERS

New and Amended Zones	2
New Installations	60
New Installations in Public Parking Lots	39
Removals	441
Installations	347
Relocations	212
Temporary Removals	368

Total Number in Place June 30, 1971      14,160

### MISCELLANEOUS INVESTIGATIONS

	NUMBER OF INVESTIGATIONS MADE
Written Reports to San Francisco Parking Authority	21
Parking Checks	40
Advisory Appearance and Conferences with	
San Francisco Parking Authority	24
Formal STOP and YIELD Sign Investigations	232
Formal Parking Control Investigations	159
Formal Traffic Signal Investigations	181
Other Formal Investigations	258
Auto Parking Station or Garage Permits	58
Miscellaneous Parking Checks	7

### PAVEMENT PAINTING

	COMPLETED
Standard Striping, Miles	419.4
12-Inch Stripes, Feet	412,950
12-Inch Yellow Stripes, Feet (School Crosswalks)	133,250
Bus Zones, Feet	141,500
Parking Stalls (all types)	9,162
New School Intersections	+2
Total School Intersections in Place June 30, 1971	948
Pounds of Reflective Beads Used	39,180
9" Stripes, Feet	124,657
Spotting and Removing, Miles	81.3

## TRAFFIC AND STREET NAME SIGNS

		COMPLETED 1970-71
Traffic Signs		
Parking Signs Installed		1,074
Parking Signs Repaired or Changed		971
Parking Signs Removed		929
Other Signs Installed		1,729
Other Signs Repaired or Changed		1,719
Other Signs Removed		317
Stop Signs Installed		459
Stop Signs Repaired or Changed		723
Stop Signs Removed		31
TOTAL		7,952
Special Signs Made by City Forces		892
Estimated Approximate Cost 1970-71	\$45,000	
Estimated Total Number in Place June 30, 1971	40,000	
Street Name Signs		
Street Signs Repaired or Changed		694
Street Signs Installed		5
TOTAL		699
Estimated Approximate Cost 1970-71	\$31,000	
Estimated Total Number in Place June 30, 1971	5,815	

## TRAFFIC LEGISLATION

	COMPLETED 1970-71	DELETED 1970-71	NUMBER IN PLACE 6-30-71
Stop Intersections	112	4	2,146
Yield Intersections	0	1	10
Through Streets, Miles	0.7	0	106.1
One-Way Streets, Miles	11.8	2.8	91.0
Speed Zones (other than 25)	3.3	0	69.7
Turn Restrictions (24 Hours)	50	2	
Turn Restrictions (Peak Hours)	26	22	
Towaway, Block Faces	155	25	
Time Limit, Block Faces	47	8	
Angle Parking, Block Faces	38	0	
Other Turn Controls	12		
No Parking Any Time, Block Faces	20	2	
Items Discussed at ISCOTT	825		
Items having Department Public Hearing	122		
Items to Board of Supervisors for Action	143		



## TRAFFIC SIGNALS AND CHANNELIZATION

	COMPLETED 1970-71	NUMBER IN PLACE 6-30-71
Channelized Intersections		
Concrete Islands	3	271
Raised Pavement Bars	5	56
TOTAL	8	327
Signalized Intersections		
3-Light Installations	11	792
Equipped with Pedestrian Signals	8	256
Actuated Signals	3	188
Pedestrian Overpasses (over City streets)	1	16

## CLAIMS ACTIVITY 1970-71

The Department of Public Works, through legal representation by the City Attorney, disposed of 60 claim actions filed against the City for personal injury or property damage resulting from street or sidewalk use.

Of the 60 claim actions completed, the City won or dismissed 32 cases and paid through judgments or litigated settlements, \$34,745.00 out of \$2,907,810.00 sought by the claimants.

The 60 cases above represents a small portion of those requiring investigation by the Street Inspection forces during the fiscal period. The total number of registered claims investigated were 339; an additional 129 possible claims (complaints) were processed, making a grand total of 468 investigations.

In addition to claims investigation, the department assists the City Attorney's Office in preparation of defense actions through consultation, giving depositions, preparing answers to interrogatories and making court appearances as City witnesses.

## SUMMARY

	1970-71	Previous Year 1969-70
Number of Cases Disposed of . . . . .	60	70
Judgments Paid . . . . .	6	5
Litigated Settlements . . . . .	22	36
Won or Dismissed . . . . .	32	39
Amount of Claims in Cases Disposed of . . . . .	\$2,907,810.00	\$4,461,155.00
Amount Paid in Settlements & Judgments . . . . .	34,745.00	57,925.00
Registered Claims Investigated . . . . .	339	290
Possible Claims (complaints) Investigated . . . . .	129	148
Total Investigations . . . . .	468	438

## STATISTICS 1970-71

Population (1970 Census)	715,674
City area, total	129,247 sq. miles
City area (mainland)	45,451 sq. miles
Highest elevation — Mt. Davidson	927 feet
Streets, total	900 miles
Streets, improved	855 miles
Streets, unimproved	45 miles
Streets, reconstructed 1970-71	0.8 miles
Streets, resurfaced 1970-71	22.96 miles
Movable bridges	3 units
One-way streets	88.3 miles
Tow-away zone streets	87.3 miles
Streets with parking meters	70.9 miles
Traffic control signs, all types	40,000 units
Traffic control signals, total	793 intersection
Traffic control signals, inst. 1970-71	11 intersection
Parking meters, total	14,376 units
New underground districts 1970-71	4.72 miles
Replacement of obsolete street light systems 1970-71	4.98 miles
New street lighting systems 1970-71	0.31 miles
Sewers in operation, total	950 miles
Sewers reconstructed 1970-71	4.13 miles
Sewers constructed 1970-71	2.55 miles
Side sewers constr. or repaired 1970-71	130 each
Street trees, total	15,740 trees
Street trees, planted 1970-71	530 trees
Street trees, destroyed, all causes	68 trees

## Municipal Equipment

Passenger cars, station wagons, jeeps	80
Trucks	223
Tractors	4
Street sweepers & flushers	23
Compressors	16
Construction equipment	8
Miscellaneous equipment	87

## Department of Public Works

## Employee Totals

General Office	28
Engineering	361
Architecture	46
Building Inspection	152
Street Cleaning and Planting	394
Water Pollution Control	241
Building Repair	402
Accounts	15
Personnel Admin.	16
Street Repair	175
Central Permit	12
Total	1822

## PERSONNEL AT BEGINNING AND END OF FISCAL YEAR

DIVISION	JULY 1, 1970	JUNE 30, 1971	CHANGE
ADMINISTRATION	3	5	+ 2
GENERAL ENGINEERING	109	124	+ 15
RECREATION AND PARK ENGINEERING	19	15	- 4
STREETS AND HIGHWAYS	44	42	- 2
SANITARY ENGINEERING	46	50	+ 4
SURVEYS AND MAPPING	33	33	-
CONSTRUCTION	57	51	- 6
TRAFFIC ENGINEERING	31	33	+ 2
TRANSIT TASK FORCE	<u>8</u>	<u>8</u>	<u>-</u>
	350	361	+ 11

Employees in Professional Classification . . . . .	156
Employees in Technical Classifications . . . . .	157
Employees in Clerical . . . . .	48

## PAYROLL:

The following tabulation shows the number of employees and total payroll charged to General, Project and Road Funds:

SOURCE OF PAYROLL FUNDS	EMPLOYEES PAYROLL	
	1970-71	1970-71
General Fund - Budget Payroll	70	\$1,012,531.00
Project Funds (Gas Tax, Bond, General, etc.)	258	\$3,330,963.00
Road Fund - Traffic Engineering	33	334,678.00

## RETIREMENTS:

During the past year, the following employees were retired and recognition is given for their faithful service to the organization:

			YEARS
Aileen A. Walsh	8/1/70	Sr. Clerk-Stenographer	20
Mabel C. Bamford	4/16/71	Sr. Electrical Draftsman	23½
Maurice A. Notter	7/1/71	Sr. Electrical Draftsman	16

## DECEASED:

Cornelius Lynch	10/3/70	Chief of Party	45
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## SUPERVISORY PERSONNEL

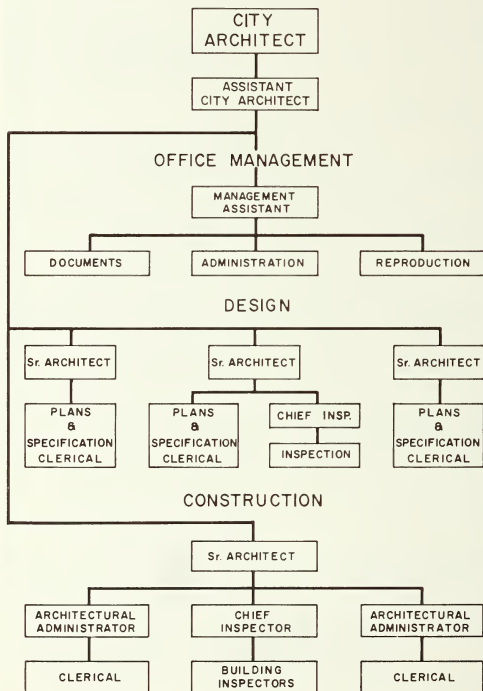
AS OF JUNE 30, 1971

Robert C. Levy, City Engineer  
Ross T. Shoaf, Assistant City Engineer

DIVISION & SECTION	PERSON IN CHARGE
<b>STREETS AND HIGHWAYS</b>	W.J. Scruggs, Senior Engineer
Highways	L.T. Tom, Engineer
St. Impvt. & Reconst.	G.M. Wong, Engineer
Street Inspection	T.A. Pedersen, Street Inspection Supervisor
<b>RECREATION &amp; PARK ENGINEERING</b>	D. Martin, Senior Engineer
Engineering	W.H. Person, Engineer
Landscaping	H.C. Schmidt, Landscape Architect
<b>GENERAL ENGINEERING SERVICES</b>	G. Galli, Principal Engineer
Administration	C.T. Beggs, Engineer
Office Management	F.R. Nichols, Head Clerk
Steno Pool	Mrs. Helen K. Flink, Principal Clerk
Utilities & Special Services	H.H. Beneke, Associate Engineer
Contract Preparation	C.T. Jensen, Engineer
Structural	G.T. Jeong, Senior Engineer
Mechanical	C.J. Brady, Senior Engineer
Electrical	A.E. Tanner, Senior Engineer
<b>SANITARY ENGINEERING</b>	A.O. Friedland, Principal Engineer
Planning and Studies	W.R. Giessner, Engineer
Design	T.F. Landers, Engineer
Administration	B. Martin, Senior Engineer
<b>SURVEYS AND MAPPING</b>	T.J. Ford, Jr., Senior Engineer
Administration and Records and Office	G.Q. Woo, Engineer
Field Surveys	A.F. Hollett, Chief Surveyor
<b>CONSTRUCTION</b>	W.C. Ewing, Senior Engineer
Inspection	J. Barrett, Engineer
Testing	E. W. Pearson, Engineer
<b>CONTRACT ADMINISTRATION</b>	F. Giusto, Administrative Engineer
<b>TRAFFIC ENGINEERING</b>	W. Marconi, Sr. Traffic Engineer
Design	G.R. Hansen, Assoc. Traffic Engineer
Planning	R.J. Evans, Asst. Traffic Engineer
Operations	N.E. Bray, Traffic Engineer

# BUREAU OF ARCHITECTURE DEPARTMENT OF PUBLIC WORKS ORGANIZATION CHART

JULY 1 1971



## BUREAU OF ARCHITECTURE

Charles W. Griffith, City Architect

The Bureau of Architecture supervises the design and construction of new public buildings, and the modernization and alteration of existing public buildings, under plans duly approved by the various City, State and Federal Departments which are involved.

Once the need for a building project is established, the Bureau assists the requesting City department in the preparation of a basic program and the acquisition of a building site. The program consists of general information relative to the activities and services to be performed in the building, the number and type of employees who will be housed in the building, the number of public to be served, and related data. The Bureau then prepares sketches, specifications, and estimates of cost, and when funds are available, prepares, or supervises the preparation of the schematic, preliminary and final drawings, specifications, and estimates. After approval of the final documents, bids are requested by advertisement in the official newspaper, opened in public, reviewed and analyzed, and recommendations are prepared for award of the construction contract. After award and certification of the contract, Bureau personnel inspect the construction as it develops, certify monthly progress payments, verify that it has been properly constructed in conformance with the plans and specifications, and initiate the final payment to the contractor. The work which was being processed in the Bureau as of July 1, 1971 was as follows:

1. Plans and Specification Stage	\$86,000,000
2. Work under Construction (88 Jobs)	60,279,985
3. Work Completed (92 Jobs)	11,615,643
<b>TOTAL</b>	<b>\$157,895,628</b>

## ORGANIZATION

The organization of the Bureau is broken down into three separate divisions: Office Management, Design, and Construction, as shown by this Organization Chart.

## OFFICE MANAGEMENT

### Section I — Documents

This section is responsible for the assembly and issuance of the contract documents to contractors, the filing of tracings, blueprints, and specifications, and related work.

### Section II — Administration

This section is responsible for personnel matters, all incoming and outgoing correspondence, dispensing information to contractors and architects, the operation of the Bureau's main counter, and related work.



## Section III – Reproduction

This section is responsible for the requisition and procurement of blueprints, the assembly of blueprints, the reproduction and assembly of specifications, and related work.

## DESIGN

The responsibility for processing the various jobs from initial inception to completion of the final drawings, specifications and estimates is divided into three sections. Each of these sections is headed by a senior architect who maintains formal and informal relationships with the client agency and supervises the personnel assigned to him for the preparation of the drawings and specifications.

## MISCELLANEOUS DESIGN SECTION

## A. 1964 Fire Department Bond Issue – \$4,890,000

The work of this issue was delayed for the past three years by the Fire Commission pending results of a study by Gage-Babcock, management consultants. The report has been completed and the Fire Commission has instructed us to proceed with the design of firehouse for Engine Co. Nos. 36 and 37. Present status of the bond project is as follows:

I.	Completed (54%)		\$2,588,900
	1. Headquarter's Building	\$1,115,000	
	2. Fire Station Engine Co. No. 28	256,000	
	3. Fire Station Engine Co. No. 7	310,000	
	4. Fire Station Engine Co. No. 17 and Truck Co. No. 1	447,500	
	5. Fire Station Engine Co. No. 43	394,900	
	6. Fire Station Engine Co. No. 46	65,500	
II.	Design State (15%)		750,400
	Fire Station Engine Co. No. 36	351,300	
	Fire Station Engine Co. No. 37	399,100	
III.	Projects Held in Abeyance (27%)		1,333,100
	1. Fire Station Engine Co. No. 16	278,300	
	2. Fire Station Engine Co. No. 33	355,500	
	3. Fire Station Engine Co. No. 3	384,700	
	4. Fire Station Engine Co. No. 8	314,600	
IV.	Contingent Fund (4%)		242,640
		TOTAL	\$4,915,040

NOTE: \$55,040 of these funds are from 1952 Fire Department Bond Issue.

In addition to the bond issue work the Bureau is also assisting the Fire Department in the replacement of Fire Station No. 1, which is in the Golden Gateway Development and must therefore be moved. The total cost of this project will be approximately \$1,000,000.



New Fire Station Engine Co. No. 36 551 - 26th Avenue. In design stage, estimated cost: \$351,300.

B. Improvements and Expansion of Candlestick Park Stadium — \$24,430,000  
(2 Bond Issues: \$8,330,000 and \$16,100,000)

The construction of this project was started in November 1969, The first project was the preparation of the field to receive artificial turf and the second project was the installation of the artificial turf. The projects were completed in time for the opening of the 1970 Baseball season in April 1970. Since then several other projects have been started, as noted below, and it is expected that all work will be completed in the Fall of 1972, 7 months ahead of schedule.

This project will complete the bowl around the playing field. It will provide a total of 60,000 seats for both baseball and football. Conversion from baseball to football use is made simple and inexpensive by hydraulic movable stands which are extended on tracks for football and retracted for baseball.

The various parts of this project and their status are shown below:

1.	Design Contract John S. Bolles Associates 90% Completed	\$ 660,000
2.	Site Preparation Williams & Burrows, Contractor Completed	844,719
3.	Artificial Turf Monsanto Corporation Completed	329,145
4.	Stadium Seating American Seating Co. 90% Completed	902,925
5.	Movable Stands Rollway Grandstand Corp. Completed	1,140,060
6.	Relocation of Scoreboard Adams & Smith, Contractors Completed	107,200
7.	Interim Fencing Anchor Fencing Co. Completed	18,765
8.	Improvements & Expansion Williams & Burrows, Contractor 60% Completed	11,538,000
9.	New Scoreboard It is expected that this will be furnished by concessionaire with minimum cost to the City.	
10.	Subtotal	\$15,540,814
11.	Contingent Fund - Inspection, Extras, Special Engineering, and related expenses.	3,357,421
	TOTAL	\$18,898,235

### C. Recreation and Park Department

During the year, two new recreation buildings, Christopher Center in Diamond Heights and Gilman Recreation Center in the Candlestick Park area were completed. In addition, extensive repair projects were completed at McLaren Park Field House, and Silver Terrace Field House.



Recreation Center for Christopher Park, Diamond Heights Boulevard and Amber Drive



Gilman Recreation Building for Gilman Playground, Gilman and Giants Drive. Construction cost: \$81,845. Completed February 19, 1971.

1. McLaren Park Convenience Station

This unique project will be completed in September 1971. The elliptical shaped building received notice in the local press and praise from the Civic Design Committee of the Art Commission. The Recreation-Park Department hopes to use a similar design in another site when funds are available.



McLaren Park Convenience Station. Contract Cost: \$27,900. Estimated completion date: October 1971.

2. Ocean View Recreation Center

This facility, severely damaged by vandals and a major fire, will be rehabilitated under the direction of the Bureau. A contract was awarded in May 1971, and the work will be completed by December 1971.

3. Senior Citizens Center

The architects were selected and preliminary sketches have been prepared and approved by the Commission. Art Commission approval is pending.



Senior Citizens Center, Golden Gate Park. In design stage, estimated cost: \$340,000.

#### D. Police Department

Since the first major attack on police stations there has been a continuing program of construction to overcome vulnerabilities to further attacks.

The first phase, after the Park Station bombing, was directed toward sealing the windows, eliminating ledges and provision of perimeter fencing. The second phase provided interior work including entrance ante-rooms and bullet resistant screens at complaint counters. Each phase has made the stations more secure.

A new study made by independent experts has been made outlining a system of optimum security. As funds are made available, the Bureau will implement the remaining phases of this important work.

#### E. Miscellaneous Projects

##### 1. War Memorial Opera House

Work of rehabilitation continued through the year. Several contracts were completed including cabinets for the administration offices, stage lighting cables, general backstage rehabilitation, ticket office and other miscellaneous work such as dressing room lighting, carpeting and refurbishing the music library. All work scheduled will be complete by September 1971.

##### 2. Tax Collector

Twelve thousand square feet of office is being replanned and remodeled while the various functions of the office continue with minimum interruption. Project is 50% complete. Total cost approximately \$50,000.

##### 3. Other Projects

Special holding tanks for Steinhart Aquarium, wall coverings for De Young Museum and several projects in the Hall of Justice and the county jails in connection with security.

##### 4. Capital Improvements Budget

This section coordinates and compiles the Bureau's data for the yearly budget requests for capital improvements. Liaison with the Planning Department and the collection of data consumes many man hours each year.

### SCHOOL DESIGN SECTION

This Section is responsible for all of the design work for the San Francisco Unified School District. This work is in four major categories: (A) City-District Bond Issues, (B) District Funds, (C) Field Act earthquake resistant construction, (D) Special Funds such as Federal or State subvention.

#### A. 1964 School Bond Issue

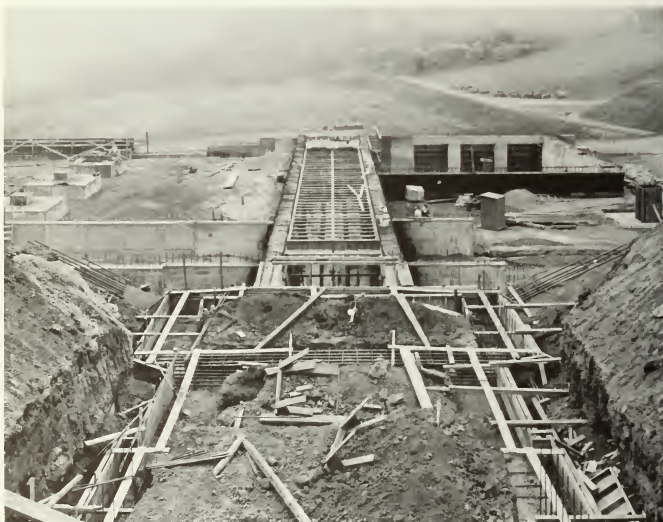
\$31,464,500

This bond issue will provide four completely new schools, major additions to four schools, two new buildings for City College, replacement of one elementary school, replacement of various temporary classrooms with permanent classrooms, and miscellaneous costs. The work has progressed favorably and, as of June 30, 1971, the status was as follows:



1.	Work Completed Thirty Projects	70%	\$22,072,300
2.	Work Under Construction One Project	22%	7,030,000
3.	Drawing Stage	5%	1,300,000
4.	Miscellaneous Costs, Plans & Specifications and Unallocated	3%	1,062,200
TOTAL			\$31,464,500

Design work was completed, bids were received and construction started on the new Diamond Heights High School, Academic Building, Cafeteria and Music Building. Construction was completed on the Grattan School and Visitation Valley and Potrero Hill Junior High Schools.



Construction Site of Diamond Heights High School, looking south.

Grattan Elementary School, Grattan Street at Shrader Street. Construction cost: \$1,278,158.08; completion date: September 1971.



Grattan School as seen from rear yard

Visitacion Valley Jr. High School, Raymond and Elliot Streets. Construction cost: \$3,791,360.01; completion date: April 23, 1971.



Looking southeast at Visitacion Valley Jr. High School

Potrero Hill Junior High School, 19th and DeHaro Streets. Construction cost: \$3,492,051.24; completion date: June 21, 1971.



Auditorium — Features floating sound baffles



Entrance detail

## B. District Funds

Design work is underway for the new Hunters Point South School in the Hunters Point Redevelopment area and is expected to cost about \$1,850,000.00. A bond issue for \$4,500,000 in November 1970 (for this school and two others) received slightly less than the necessary 66-2/3%. It therefore appears that this school will be financed jointly by the City and the School District.

Alteration and repair projects for the District are listed in Appendix No. 2. Plans and Specifications were prepared and bids received for approximately 70 projects with a total value of \$898,000 during the year.

## C. Field Act Funds

A structural survey was made in 1970 of existing school buildings which were constructed prior to 1934. Reports were referred to the District for review. A bond issue of \$45,000,000 on a 1970 ballot to provide funds for rebuilding these older schools was defeated. A new bond issue will be presented in November 1971.

Until the bond issue is passed, a special tax override is being used to prepare plans and reconstruct several schools, for the elimination of obvious falling hazards and for the construction of portables where schools have been demolished.

## D. Special Fund Projects

Preliminary plans were completed and approved by the Board in March 1970 for the new Bayview Elementary School. This school, in an impoverished area, is being financed by funds granted under Senate Bill 28. Work was temporarily halted because bonds could not be sold due to the 5% interest limitation. This limitation was raised to 7% and work was resumed. Bids are presently being solicited for this school and the estimated costs is \$1,850,000.

# HEALTH DEPARTMENT DESIGN SECTION

During the fiscal year 1970-1971, this section was primarily engaged in preparing plans, specifications and estimates for alteration and modernization of existing buildings and project management of new building projects for the Health Department.

In addition, this section also provided contract administration and inspection for the new San Francisco Medical Center Project.

## A. New Building Projects

### 1. San Francisco Medical Center Bond Issue

#### a. Hospital Building \$28,769,000

Final drawings and specifications for this project were completed on December 16, 1970. Bids were received on May 12, 1971, and the contract was awarded on June 9, 1971. Construction will start July 26, 1971.

This hospital building is a seven-story, high-rise structure with a gross finished floor area of 635,000 square feet and will provide 584 beds for medical, surgical, and psychiatric patients with comprehensive ancillary facilities and services. The completion date of this building is

estimated to be November 1974, and completion of the new hospital landscaping, public parking, including the demolition of other existing hospital buildings, is September 1975.

b. Service Building

\$5,222,000

This, the first construction phase of the San Francisco Medical Center project, is near completion. The site of this building is located on the northwest corner of San Bruno Avenue and Twenty-Second Street. It will replace the old Power House and Laundry Buildings Nos. 7, 8 and 8A, which will be razed under the Hospital Building construction contract.

Service Building, San Francisco Medical Center, 22nd and Potrero Avenue. Contract amount: \$5,222,000; estimated completion date: October 1971.

San Francisco Medical Center Service Building, view from 22nd Street showing air intake louvers



Service Building, liquid oxygen tank in center of photo.



2. District Health Center No. 4 and Emergency Medical Aid Station - 1490 Mason Street \$1,538,000

This facility serving the Chinatown and North Beach districts, completed in June of this year, is the last of five district health center projects.

Health Centers numbers 1, 2, 3, and 5 are already serving neighborhoods of the City. This building includes an emergency medical aid station which will replace the Harbor Emergency Hospital. No funds for the costs of land was expended for this project since the center is built over city property at the east approach to the Broadway Tunnel.

**District Health Center No. 4 and Emergency Medical Aid Station (Chinatown-North Beach), over Broadway Tunnel east of Mason Street. Construction cost: \$1,582,638; completion date: June 1971.**



Chinese Dragon adorns facade of Health Center No. 4

#### B. Alteration and Modernization Projects

1. Electrical and Miscellaneous Work, Fourth Floor, Ward Building No. 20, San Francisco General Hospital \$6,500

This large ward in the west portion of Ward Building No. 20 was converted into a general office area in 1967. New electrical lighting was intentionally left out due to insufficient funds. This work involved the removal of original incandescent lighting fixtures and the installation of new fluorescent ceiling fixtures.



2. Electrical Power Service, Intensive Care Unit, Second Floor,  
Ward Building No. 10, San Francisco General Hospital \$3,995

The electrical power which served the Intensive Care Unit was insufficient to operate all of the electrical equipment required for care of patients in this ward. This work provided additional panel boards and feeders, new receptacles, a broken circuit warning system, etc., to serve equipment for 5 beds and 7 future additional beds.

3. Temporary Relocation of Chemistry-Toxicology Laboratory,  
Old Pathology Building, San Francisco General Hospital \$27,700

A temporary Chemistry-Toxicology Laboratory on the second floor of Building 70 is near completion. This facility was relocated from the Old Pathology No. 2, which will be demolished under the new Hospital Building contract. After the Hospital Building is completed and space is available in the existing buildings, this laboratory will then be permanently relocated.

4. Temporary Relocation of Maintenance Shops,  
San Francisco General Hospital \$21,400

This project involves alteration work to the basement of Building No. 70 and Main Nurses Home, Building 9. This work, which is nearing completion, will allow the temporary relocation of maintenance shops from the basement of Building 60, scheduled for early demolition under the Hospital Building Contract. It is planned that these shops will be permanently located in existing buildings once the new Hospital Building is completed.

### CONSTRUCTION DIVISION

This division supervises and inspects all work under construction. The responsibilities of the Construction Division include inspection of work for conformance with contract documents, progress and validity of the contract work, contract payments and certification of completion of the contract. The Construction Division investigates and recommends disposition of contract claims.

This division is headed by a Senior Architect and there are two Architectural Administrators who assist him in the administrative responsibilities. The division also includes a Chief Building Inspector, who supervises the activities of fifteen Building Inspectors.

As of July 1, 1971, there were eighty-eight jobs under construction in the total amount of \$60,279,985. Representative work under construction is pictured on the following pages.



San Francisco Community College  
Creative Arts Building,  
50 Phelan Ave.  
Contract Amount:  
\$1,511,000.00  
Estimated Completion  
Date: 3/72

New Creative Arts  
Building will provide  
the latest facilities for  
radio & TV teaching

Theater of the Performing  
Arts in the Palace of  
Fine Arts and Science.  
Construction Cost:  
\$347,661.37  
Completion Date:  
2/18/71



Entrance lobby



Little Theatre view  
from the stage

## BUREAU OF ARCHITECTURE

Supervisory Personnel  
As of June 30, 1971

City Architect . . . . . Charles W. Griffith  
 Assistant City Architect . . . . . Hugh W. Hiatt

## ADMINISTRATION

Management Assistant . . . . . Richard De Martini

## DESIGN

## I. School Work

Senior Architect . . . . . Norman Karasick  
 Architect . . . . . Orlando Orlandi  
 Architectural Associate . . . . . Richard Leong

## II. Health Department Work

Senior Architect . . . . . Robert Malerbi  
 Architect . . . . . Harry Squeri  
 Chief Building Inspector . . . . . Edward Bourdieu  
 Architectural Associate . . . . . Peter Pira

## III. Miscellaneous Work

Senior Architect . . . . . Clement Mullins  
 Architect . . . . . Francis Chinn  
 Architect . . . . . Arthur Lee

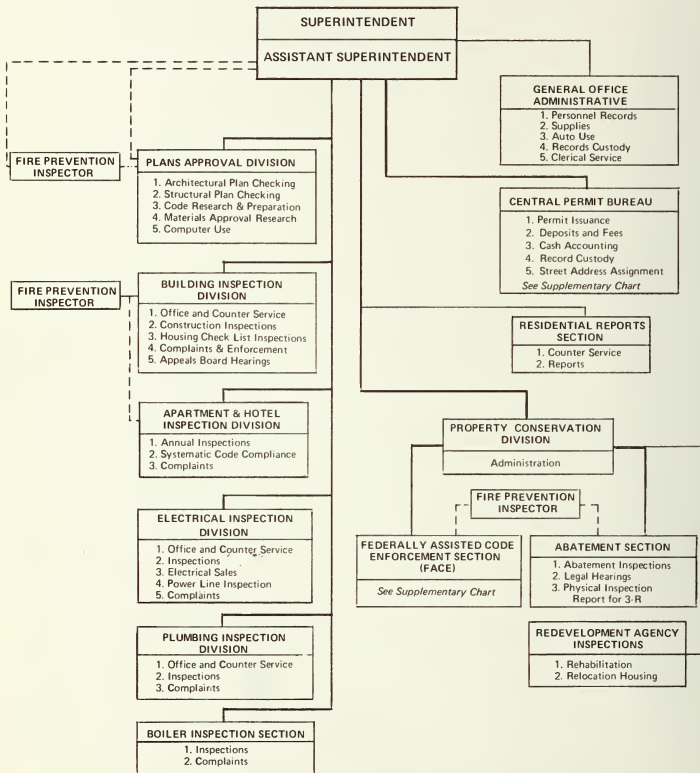
## CONSTRUCTION

Senior Architect . . . . . John R. Wilkinson  
 Chief Building Inspector . . . . . Robert J. O'Connell  
 Architectural Administrator . . . . . Albino Giusto



## ORGANIZATION CHART

June 30, 1971



## BUREAU OF BUILDING INSPECTION

Alfred Goldberg, Superintendent

### CONSTRUCTION ACTIVITY

Construction volume continued at the high level of the last several years.

The Statistical Summary at the end of this text shows a total estimated cost of structures for which permits were issued during the fiscal year to be approximately \$156,000,000. However, total for the twelve months ending with July 1971 instead of June came to \$264,000,000. Issuance of permits for as much as \$124,000,000 of construction within a single month distorts the annual totals shown.

However, within the continued high volume, certain changes in the "mix" are occurring. Office building construction is again dominant whereas industrial construction has again decreased. Additionally, construction of wood frame buildings, mostly residential, increased by over fifty percent.

### BUDGET AND ADMINISTRATION PROBLEMS

As in previous years, budget requests to permit use of data processing of housing information, particularly that gained in relation to apartment house and hotel inspections, has been deleted from the budget even though the amounts requested are nominal.

Once again, enforcement of the Parapet Ordinance was prevented by the deletion of personnel from the budget for the fiscal year. A supplemental appropriation submitted immediately following the San Fernando Earthquake in February, 1971 remains unapproved through the closing of the fiscal year.

It is hoped that a new concept in budgeting of the Bureau will be considered and adopted so that funds received through fees are employed to the benefit of the City at large and the construction industry which pays the fees for such services.

### PLANS APPROVAL DIVISION

The primary function of the Division is the expeditious processing of permit applications for all types of construction, which, apart from the necessary coordination and routing steps, involves the architectural and structural plan checks for conformance with applicable codes, laws and safety regulations.

In order to increase the efficiency of the plan checking function and as a public service, preliminary plan reviews of major or complex projects are conducted when requested or desired by the applicant.

Other important functions are as follows:

1. Investigation of land slides, structural failures and potential hazards.
2. Investigation of new materials, new construction techniques and new methods of design and determination of their acceptability.
3. Staff Assistance to the Superintendent in the preparation of additions and amendments to the Building Code, code rulings, administrative and office bulletins and correspondence work in connection with preliminary plan reviews.



4. Coordinating and administering the Special Inspection requirements of the Building Code with the inspection arm of the Bureau.

The processing of permit applications, as well as the other functions of the Division, were seriously hampered by unfilled staff vacancies until the latter half of the fiscal year. However, as soon as all vacancies had been filled, which occurred in March, 1971, rapid progress was made in eliminating permit processing backlogs, improving efficiency and resuming activity in the other function areas. Additionally, a training program was initiated by means of weekly meetings in order to train the new personnel and promote efficiency and uniformity of checking.



TRANSAMERICA BUILDING

## NEW ELECTRICAL CODE

The new San Francisco Electrical Code, prepared by a joint industry, construction and professional committee, was submitted to the Board of Supervisors and adopted in the Fall of 1970. This was a major document incorporating in one volume those provisions of the National Electrical Code, State Safety Orders and specific local regulations for use by contractors. It represented the first major update of the Electrical Code in San Francisco history and the first such single document to be used by the industry.

For the first time, the Electrical Code provided for a means of technical appeal to the Board of Examiners, which same has functioned with distinction in Building Code appeals. The Board will be augmented by one member of the electrical contractor group for hearing matters relative to the Electrical Code which are appealed to that Board.

Administrative provisions comparable to the Building Code were also included along with the requirement of mandatory updating of the Code at three year intervals.

The last attempt to include permissive use of non-metallic cable, as presented by the Chamber of Commerce, was defeated by the Board of Supervisors by an overwhelming vote. It was the position of the Bureau to support the use of non-metallic cable in residential buildings of wood frame construction not exceeding four stories. However, this amendment was not included in the Code.



ST. FRANCIS HOTEL ADDITION

## PLUMBING CODE

In the latter part of 1970, the Plumbing Code, which had previously been drafted and sent to industry in 1966 and then tabled, was revised and updated to comparability with the 1970 Uniform Plumbing Code. The draft was transmitted to over 80 groups and individuals for their comments and review leading to submittal of the Code to the Board of Supervisors for action in July, 1971. At the close of the fiscal year, final comments with regard to the third draft were in hand and the final preparation of the Code had been prepared for transmittal to the Board.

This Code represents the first such complete revision since 1905 and is also the first code that is required by the State Health and Safety Law (AB 2300) to justify, by resolution of the Board, those variations from the Uniform Plumbing Code. The Code, excepting for the administrative provisions, is virtually identical to the Uniform Plumbing Code except for approximately 20 percent for which there are no comparable provisions in the Uniform Plumbing Code. There is only 6 percent of the Code that differs from the Uniform Plumbing Code. The format of the new Code follows identically that of the Uniform Plumbing Code; and, further, it is anticipated that each section which is identical to or very similar to the Uniform Plumbing Code will be flagged for greater ease and usability by the industry.

The new Code provides for an appeal board similar to that of the Electrical Code and Building Code.

One omission, as compared to the Uniform Plumbing Code, is that plastic piping has not been specifically approved. Data has not been received to justify such inclusion. Mechanisms for inclusion through approval or code change are, however, provided for and mandatory reviews at three year intervals of the entire code is a basic requirement.

It is hoped that the new Code will be adopted prior to the Fall of 1971; and for the first time since before the 1906 Earthquake, San Francisco will have a complete set of up-to-date code documents except for air conditioning and refrigeration.

The Bureau wishes to express its appreciation to all those groups who have participated in preparation of the Plumbing Code and all other code activities for the fiscal year.



ST. IGNATIUS SCHOOL

## BOARD OF EXAMINERS

During this year, the Board of Examiners heard many requests for variance from Building Code and Electrical Code provisions as well as requests for approval of new materials.

As a result of passage of the new Electrical Code late in 1970, the Board was augmented by the addition of an Electrical Contractor and empowered to rule on approvals of new materials and methods as well as variances from the Electrical Code. This essential appeal facility had not been previously available in San Francisco. Even within the few remaining months of the fiscal year after this Board was constituted, a number of requests for essential electrical variances and approvals were heard.

Additionally, an important set of variances was granted in regard to several Redevelopment Area housing projects. Under these variances it became possible to construct attractive town house projects of several hundred units with appreciable savings in costs with no reduction in safety.

## BOARD OF PERMIT APPEALS

Increasing numbers of appeals are being filed relative to permits of the Department of Public Works. The main similarity in the permits being appealed involves or results from the Systematic Code Enforcement Program directed toward bringing apartment houses and hotels up to the Housing Code as part of our Workable Program commitments.

Decisions, wherein the Board has waived compliance with the City's laws, have been referred to the City Attorney to determine whether or not the Bureau must comply with the orders of the Board. During the fiscal year, 41 such cases were referred to the City Attorney. Evaluations in 30 of these cases, based upon transcripts, indicated that in 20 of the cases referred the conclusion by the City Attorney was that the Board had erred and that for 10 of the cases his advice was that the Bureau had to issue the permit.

It should be noted that a request for funds to provide specifically for transcripts rather than using surplus funds was denied by the Finance Committee relative to the 1971-72 budget. It is hoped that we will continue to use surplus funds or that eventually a transcript appropriation will be authorized.

A major problem in the obtaining of the transcripts is the length of time, running into months, before we obtain them. There is a substantial backlog of orders for transcripts unfilled with the court report of the Board of Permit Appeals. Similarly, the City Attorney has Bureau requests for opinions pending back to 1969 which have not been forwarded to this Bureau with his conclusions. In some cases, therefore, illegal conditions have been allowed to exist due to our need to wait for guidance from the City Attorney on the permits at issue.

## THE SYSTEMATIC HOUSING CODE ENFORCEMENT PROGRAM

The Systematic Housing Code Enforcement Program in apartment houses and hotels continues at the rate of 1,000 buildings per year with compliance being obtained in approximately 500 to 600 buildings this year. This is a major component of the Workable Program of the City and has been in operation since July, 1967.

It is proposed that in the next fiscal year that remaining inventory of buildings will be re-evaluated on a new weighted priority point system so as to place greater emphasis and the institution of early action against buildings having specific serious health and life hazards.

Replacement of personnel remains a serious problem. At the end of the fiscal year there was pending before the Civil Service Commission the establishment of a new classification group for the inspectors in the Division of Apartment and Hotel Inspection under the general designation of Residential Environmental Inspector. This would be distinct from the present class of Food

and Environmental Health Inspector, which class derives originally from the Department of Public Health and does not directly reflect the activities of the men in this Department.

#### **FEDERAL PROGRAMS – NATIONAL ASSOCIATION OF HOUSING AND REDEVELOPMENT OFFICIALS**

The Superintendent is a member of the National Codes Division Executive Board of National Association of Housing and Redevelopment, which participates in the development of new federal legislation to broaden the entire concept of urban development. It is expected that an alternate proposal to the Revenue Sharing Plan of the President will be forthcoming based upon recommendations developed by National Association of Housing and Redevelopment Officials, National League of Cities and National Mayors Organization.



HYATT HOTEL



Considerable emphasis in such a bill will be made to on-going systematic code enforcement in any such federal sharing systems, together with a change in the method of assuring continuity of programs by replacing the Workable Program with a status report at specific intervals. This would eliminate this "go-no go" operation which presently causes difficulty with urban redevelopment projects and code enforcement.

The Chief of Property Conservation was appointed to the National Rehabilitation Committee based upon the long experience San Francisco has had in this field.

In October, 1970, the Bureau participated as host to the annual workshop in the field of codes and rehabilitation at the Sheraton Palace Hotel. Members of the Bureau were on programs. In addition, tours throughout the FACE areas were provided.

At this annual meeting, there was released the first report on the Bureau's Systematic Code Enforcement Program together with the "wrap up" of the FACE Program in the first four areas. Many hundreds of copies were distributed and all reports were very well received.

## **INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS ACTIVITIES**

The Superintendent continues his participation in various International Conference of Building Officials activities, particularly as a member of the Fire and Life Safety Committee of the Code Change Committee of International Conference of Building Officials, and in the activities of the California Chapter relative to state legislation.

It has long been the position of the Bureau of Building Inspection that one obligation that should be recognized by large jurisdictions is the participation in code development, based upon experience and expertise gained in these larger jurisdictions. The corollary to that is that code changes adopted by model code groups parallel those of San Francisco and thus strengthen the position of San Francisco and increase the protection of the public in all jurisdictions using the model codes.

The Bureau also participated as a member of the Seismic Subcommittee with one of the Structural Plan Checkers attending the meeting on that subcommittee level.

## **STATE LEGISLATION**

It was expected that 1971 would be a quiet year in state legislation. However, by mid-Spring it became apparent that the contrary was to be true. Vast amounts of legislation, which in the main were found to be extremely bad, were introduced.

Many of the changes involved increased state control of regulations and an entirely new group of legislation related to imposing a master appeal board at a regional or state level which, in fact, would have powers to overrule regulations or codes adopted by local governments. Much of the legislation would have been seriously adverse to San Francisco by lessening safety levels, increasing costs to be borne by taxpayers, and by removal of local control.

With the recognition of the increasing pressures in the State Legislature to remove home rule, greater importance has been cast on the review of legislation within the Bureau and participation in the California Chapter of International Conference of Building Officials and legislative activities of National Association of Housing and Redevelopment Officials Pacific Southwest Regional Council. Based upon this year's activities, it can be expected that future years will reflect similar strong attempts into the areas of pre-emption, superposition of regional or state bodies over local governments and changes reflecting substitution of regulations at the state level for those at the city level.





Apartment Buildings



Western Addition Redevelopment Projects

## SUMMARY

## BUILDING PERMITS

TYPE OF CONSTRUCTION	1969-70 NO. OF PERMITS	1970-71 NO. OF PERMITS	1969-70 ESTIMATED COST	1970-71 ESTIMATED COST
Type 1	36	16	\$237,245,270	\$ 57,748,825
Type 2	1	2	121,000	2,508,000
Type 3	10	9	3,731,473	1,348,300
Type 4	26	29	3,378,456	1,523,500
Type 5	227	338	17,621,052	30,298,587
Alterations	<u>11,481</u>	<u>10,646</u>	<u>52,146,556</u>	<u>62,885,351</u>
TOTAL	11,781	11,040	\$314,243,807	\$156,312,563

Type 1 – Steel frame, reinforced concrete, or reinforced masonry structural elements. Fire-resistive construction.

Type 2 – Similar to Type 1, but with limitations.

Type 3 – Wood frame floors with exterior walls of concrete or masonry.

Type 4 – Light incombustible frame construction.

Type 5 – Wood Frame construction

## MISCELLANEOUS STATISTICS

	<u>1969-70</u>	<u>1970-71</u>
Inspections reported by building inspectors	44,660	41,489
Projects remaining on which permits have been issued that have not been reported completed by building inspectors	4,885	4,856
Complaints reported that have been adjusted by building inspectors	2,696	2,393
Inspections reported by boiler inspectors	1,450	1,207
Inspections of City boilers and air tanks	138	151

	1969-70	1970-71
Complaints received and adjusted — boiler and air tanks	856	910
Complaints and requests for information recorded	3,525	2,593
Applications for permits examined and approved by Plan Checking Division	Bldgs. 1,436 Signs 1,119	1,468 1,185
Miles traveled during the year by vehicles on inspection service	470,894	449,798
Report of Residential Records	4,612	6,182

## PLUMBING INSPECTION DIVISION

PERMITS AND FEES	<u>1969-70</u>	<u>1970-71</u>
Number of permits, combined work (Plumbing, water piping, gas, etc.)	2,376	2,166
Number of permits, plumbing only	808	867
Number of permits, gas only	6,126	5,975
Number of permits, water piping only	1,520	1,715
Number of plumbing permit issuance fees paid	2,191	2,282
Number of gas permit issuance fees paid	1,879	2,044
Number of water line permit issuance fees paid	3,183	3,460
Number of extra charge fees	298	283
Number of reinspection charge fees	39	99
Total receipts for fiscal year	\$150,155.90	\$217,110.43

## INSPECTIONS

Number of inspections made (Plumbing, water, gas, etc.)	15,806	15,635
Number of jobs finalized	6,371	6,658
Number of lockouts	1,952	2,009
Number of hours spent on fee exempt work	2,652½	4,006

COMPLAINTS AND ADJUSTMENTS	1969-70	1970-71
Number of complaints received	1,227	1,240
Number of complaint inspections	2,569	2,581
Number of complaints abated	1,169	1,126
Number of Coroner's request for investigation	3	3
Number of condemnation reports	41	39
Number of work without permit found (penalty work)	68	112
SEWERS		
Number of building sewers installed	115	207
Number of building sewers replaced or repaired	184	155
Number of building sewer traps replaced	22	43
PLUMBING FIXTURES, ETC.		
Number of plumbing fixtures and waste discharge	29,301	40,217
Number of sump ejectors	18	11
Number of grease interceptors	5	30
Number of rain water leaders	417	596
Number of water outlets over (4)	64,923	80,493
GAS INSTALLATIONS		
Number of gas lines installed, 1 outlet only	1,991	2,039
Number of gas outlets over 1	2,342	2,976
Number of gas conversions	3	2
Number of warm air furnaces	1,718	2,059
Number of water heaters	3,026	3,210
Number of miscellaneous gas appliances	3,772	4,507

## ELECTRICAL INSPECTION DIVISION

PERMITS AND FEES	1969-70	1970-71
Permits issued, wiring and signs	12,361	10,517
Permits issued — signs		1,709
Electrical sales, licenses registered	2,500	2,298
Electrical contractors, registered		529
Motion picture projectionists, registered	298	332
Plant owners licenses registered	55	60
Electrical wiring and fixture — permit fees	\$301,194.00	\$267,173.00
Electrical sign permit fees	7,616.00	8,376.00
Electrical sales license fees	30,845.00	32,436.00
Plant owners license fees	87.00	578.00
Total receipts for Fiscal Year	\$339,742.00	\$308,563.00
INSPECTIONS		
Inspections made	35,057	35,022
Electrical surveys of multi-unit buildings for code compliance (March 1971 thru June 1971-DAHI)		292
Complaints investigated (found defective)	3,028	2,742
Jobs discovered without permit	162	124
Installations in progress as of June 30, 1970	4,577	4,577
Number of lockouts		1,138
Number of hours spent on fee exempt work		7,436
Wiring and fixture installations inspected and completed	11,811	10,454
Sign installations inspected and completed		1,730
Pinball machine inspections	211	220
Inspections of nursing homes and boarding homes for ambulatory aged	66	41
Night clubs, public assembly, dance halls, movie theatres, etc. inspections	177	319



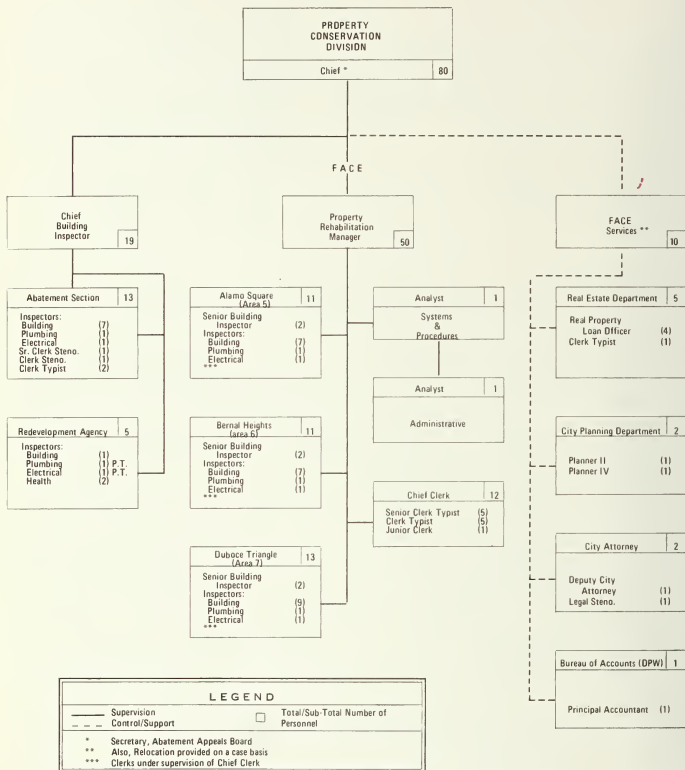
	1969-70	1970-71
Spray booth inspections	15	5
Massage parlor inspections		23
Specials (garages, parking lots, laundries, etc.)	76	124

## DIVISION OF APARTMENT AND HOTEL INSPECTIONS

	1969-70		1970-71	
No. of Structures Inspected—Inspection Orders Turned in (does not constitute total number of inspections made)	NO.		NO.	
Apartment Buildings	5,021		5,200	
Hotels	268		467	
No. Complete Inspections	1,351		1,028	
No. Structures Rehabilitated	344		431	
No. Structures "Picked-Up"				
No Previous Housing Files	No.	No. UNITS	No.	No. UNITS
Apartment Buildings	71	409	81	439
Hotels	4	31	2	34
No. New Buildings and No. Units Gained	No.	No. UNITS	No.	No. UNITS
Apartment Buildings	36	405	42	415
Hotels	—	—	1	74
No. Structures Reverted to Dwellings	33		26	
No. Structures Demolished	No.	No. UNITS	No.	No. UNITS
Apartment Buildings	76	532	47	285
Hotels	19	1,191	14	684
No. Cases Abated	347		431	
With Building Permit	320		401	

	A*	B*	A*	B*
Total Units in Substandard Buildings		3069		5,862
Last Total No. Legal Units	2699		5,543	
No. Dwelling Units Brought Into Compliance	2636	2636	5,363	5,363
No. Units Eliminated	282	437	471	526
No. Units Gained	219	2	291	29
No. Permits of Occupancy	ISSUED	REVOKED	ISSUED	REVOKED
Apartment Buildings	732	112	815	84
Hotels	20	19	31	5
		1969-70		1970-71
No. Principal's Conferences		663		411
No. Abatement Conferences		774		759
No. Condemnation Cases — Recommended		CONDEMNATION		RECOMMENDED
Apartment Buildings		448		655
Hotels		30		80
No. Building Permit Applications Received and Processed		2,532		2,246
No. Requests for Citations to District Attorney		0		0
No. Requests for Warrants		0		0
No. Complaints Received		813		755
No. Complaints Abated		710		592
No. Notices Sent		3,360		2,647
No. Potential Displacements				
Apartment Buildings		665		290
Hotels		224		128

\*A — As per original use. B — As per existing use.



## DIVISION OF PROPERTY CONSERVATION

### FACE: Federally Assisted Code Enforcement Four Years of Neighborhood Rehabilitation Progress and Citizen Involvement in the FACE Program

On June 30, 1971, the City's Federally Assisted Code Enforcement Program (FACE), which was created in 1967 within the Division of Property Conservation, completed four years of rehabilitation work in its first 2-phases (FACE Areas 1-4 and 5-7, respectively).

The Department of Public Works and the Department of City Planning work together on the initial phases of planning a FACE program. Meetings were and are held with neighborhood organizations which take the initiative in promoting or opposing the FACE project. An attempt is made through preliminary public meetings to get other groups involved. In most cases, FACE programs have been conducted only after major groups and organizations in the area have joined in support of the program.

All property owners received notices of the meetings from the Department of Public Works, accompanied by leaflets describing the program. Meeting notices were distributed door-to-door throughout the area by members of Youth for Service. Residents were urged to "sign up" as volunteers for Citizens Advisory Committees.

FACE projects were approved by the Board of Supervisors after public hearings. All interested groups and individuals were notified of these meetings.

Periodic community meetings in the FACE program were held by the Advisory Committees to explain the status of the program and to ascertain problems which might have arisen. One Committee sponsored a house tour to show the results of FACE instead of talking about them. The Committee also published several circulars and newsletters and conducted polls regarding their improvement planning ideas. This feedback caused some modifications of their plans which were then incorporated in a Federal Grant application. Property owners are assisted in their rehabilitation work by a City building inspector who handles the job from initial inspection, through specification preparation, bidding, contract award, progress and final inspections.

As of June 30, 1971, the Administrative costs (excluding Public Improvements) for the entire FACE Program total \$3,892,101 or \$845 per structure. Additional expenditures have amounted to \$919,181 for Public Improvement work in all seven FACE areas and \$8,372,421 in Federal Assistance (\$7,796,450 for Section 312 Loans and \$575,971 for Section 115 Grants) to property owners in all seven areas.

In respect to the initial four FACE Areas (Arguello Park, Buena Vista Heights, Glen Park and Great Highway), the program essentially was closed out in October 1970 with 92% of the buildings certified to be in compliance. The remaining 248 buildings were undergoing code compliance work or litigation processing. As of June 30, 1971, there were 178 buildings still active (2809 (94%) completed) with 145 (less than 5% of total buildings) under litigation — the remaining 33 buildings (1%) are nearing completion.

In Areas 5-7 (Alamo Square, Bernal Heights, and Duboce Triangle), initial inspections have been completed in 1288 (80%) of the 1620 buildings. 184 (11%) of the 1620 structures have been certified to be in compliance as of June 30, 1971. In regard to the remainder (1436), as shown in Chart C, it is projected that 660 (41%) will be in compliance by June 30, 1972, and in excess of 1300 (81% or more) by June 30, 1973, which is the target date to complete this part of the program. It is estimated that, of the 300 or more (approximately 19% of the total) structures

remaining, between 200 (12% of total) and 250 (15% of total) will be in litigation. The balance of 50 to 100 buildings (4-7%) will be working toward completion. For the total structures in Areas 1-7 (4607 buildings), 2993 (65%) were in compliance as of June 30, 1971.

With the emphasis for accomplishing the work passing from Areas 1-4 to Areas 5-7, the experienced inspectors were transferred to the newer areas and additional inspectors were hired. Increased staffing was necessary in Areas 5-7 because the rehabilitation is more complex (greater proportion of multi-unit structures, generally poorer condition of the buildings, and higher ratio of absentee landlords). Thus, progress during the early stages of the work in those three areas was slower than previously projected, but as indicated above, it is expected that during the latter part of the program, the progress will accelerate, thereby meeting the goals by the established target dates.

In December 1970, two new applications for Code Enforcement grants were submitted for approval to the U.S. Department of Housing and Urban Development (HUD) which, if approved, would continue the FACE Program over a three year period of time in the areas known as Upper Ashbury and Inner Richmond. As of June 30, 1971, these applications were at the HUD Area Office for review and further processing. These applications involve the following:

#### UPPER ASHBURY:

- (a) A total budget of \$3,172,443 of which \$2,114,962 would be financed out of Federal Code Enforcement (CE) Grant Funds for administration and operations, special services and Citizens Advisory Committee (CAC).
- (b) The City's local contribution of \$1,057,481 is in the form of public improvements amounting to \$795,000, financed out of gas taxes and road fund, and salaries of already budgeted personnel amounting to \$262,481.
- (c) Additional Federal Grants are requested: \$682,500 for Sec. 115 Rehabilitation Grants to rehabilitate residential property, and \$1,395,000 to relocate displaced families, individuals and businesses.

#### INNER RICHMOND

- (a) A total budget of \$2,352,156 of which \$1,568,104 will be financed out of Federal CE grant funds for administration and operations, special services and CAC.
- (b) The City's local contribution of \$784,052 is in the form of public improvements amounting to \$561,000, financed out of gas taxes and road fund, and salaries of already budgeted personnel amounting to \$223,052.
- (c) Additional Federal Grants are requested: \$437,500 for Sec. 115 Rehabilitation Grants to rehabilitate residential property and \$45,000 to relocate displaced families, individuals and businesses.

These areas were recommended as Conservation Areas following studies of the areas by City and Federal technical staffs and after public meetings in the neighborhoods at which there was general support for the proposed FACE programs.

It is estimated that of the 2656 buildings in both Areas (1461 in Upper Ashbury and 1195 in Inner Richmond), 2370 (89%) are in Code violation, with 29 to be demolished. A total of 73 families or 229 individuals are projected to be displaced.

**CHART A STATUS OF BUILDINGS IN ORIGINAL FOUR FACE AREAS**  
**(ARGUELLO PARK; BUENA VISTA; GLEN PARK; GREAT HIGHWAY)**  
**AS OF JUNE 30, 1971**

	Resid.	BUILDINGS (STRUCTURES)			%	DWELLING UNITS	
		Comm.	Mixed	No.		No.	%
(a) Total Buildings (Initial)	2884	32	71	2987		5732	
(b) Inspections Completed	2880	32	71	2985	99.8	5728	99.9
(c) Found in Code Violation	2526	21	64	2610	87.3	5213	91.0
(d) Found Standard	354	11	7	390	13.0	515	8.9
(e) Rehabilitated	2297	18	59	2379	79.6	4789	83.5
(f) Demolished	32	4	4	40	1.3	53	.9
(g) Total SCC'D (c & d & e)	2683	33	70	2809	94.1	5357	93.4

**ACTIVE WORKLOAD INVENTORY LITIGATION AND OPEN CASES**

	Resid.	BUILDINGS			NUMBER OF DWELLING UNITS
		Comm.	Mixed		
Area 1:					
Open	8	0	2		20
Litigation	38	0			89
Subtotal					
Area 2:					
Open	6	0	0		9
Litigation	24	0	2		70
Subtotal	30				
Area 3:					
Open	5	0	0		9
Litigation	63	0	1		81
Subtotal	68				
Area 4:					
Open	7	0	0		11
Litigation	29	0	0		61
Subtotal	36				
TOTAL: Open	26	0	5		350
Lit.	154				
Grand Total	180				

**CHART B**

**FACE AREAS 1-7 REHABILITATION LOANS & GRANTS**  
**CUMULATIVE THROUGH FISCAL YEARS 1970 AND 1971**

Service	THROUGH JUNE 30, 1970		THROUGH JUNE 30, 1971	
	Number	Amount	Number	Amount
Loan (312)	665	5,023,477	745	7,796,450
Grant (115)	225	436,300	265	575,971
Total	890	5,459,777	1010	8,372,421



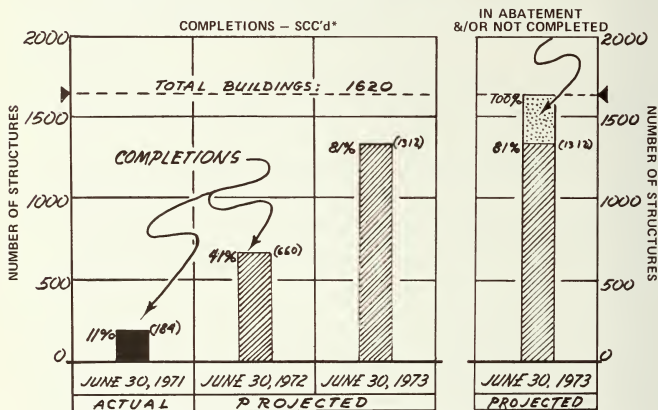
## FINANCING — LOANS AND GRANTS

	Through June 30, 1970			Through June 30, 1971		
	Starts	Completions (SCC'D)	Started But Not Completed	Starts	Completions	Started But Not Completed
Private	1623	1456	167	1731	1574	157
Loan (312)	646	533	113	713	670	43
Grant (115)	228	151	77	246	180	66
Total	2497	2140	357	2690	2424	266

CHART C

**PROGRESS STATUS — AREAS 5-7**

(ALAMO SQUARE • BERNAL HEIGHTS • DUBOCE TRIANGLE)



\* SCC'd — Satisfactory Code Compliance (Rehab completed; structures found standard; and demolished).

**Abandoned 90 Year-old Apartment Gets Artistic Restoration**

War Department records indicate this three unit building was first served in 1876. Sometime in the 1930's or 40's it was remodeled, losing its Victorian decor in favor of Spanish stucco and tile. The new owner has recaptured some of its early stateliness by adding a Victorian door frame taken from a building being demolished elsewhere.



BEFORE



AFTER

The building sat vacant several years before the owner-contractor began the restoration with a \$24,600 loan. Fires had rendered the place unlivable, but the structural shell was sound. The rehabilitation work included all new water piping, water heaters, drainage, gas lines, electricity, heat, totally remodeled kitchens and baths, replacement of almost all wall surfaces, repainting inside and out, lowered ceilings in two units, carpeting throughout all rooms except kitchens and baths, fire proofing of the lobby and provision of a fire extinguisher, repair and replacement of all broken and unfunctioning windows and construction of new front and rear stairs.

#### Complete Transformation of Hillside House

This house had crumbling retaining walls and an unsafe carport which were removed or replaced. In addition the front stairs and rear porch were replaced. Most noticeable is the new shingle siding and the living room addition. A handsome new front door and light fixture add a distinctive touch to the house. All the old windows were replaced.



BEFORE



AFTER

The inside of the house was painted throughout and wall patching was done. A new heating system was installed, and minor plumbing corrections were made. Beneath the house 66 lineal feet of concrete foundation was built and the ground was covered with concrete rat proofing.

The owners received a FACE loan for \$17,000 to finance the work. As owner occupants they were able to use \$4,600 of this for improvements not required for code compliance.

### PUBLIC IMPROVEMENTS

Part of the City's contribution to the enhancement of the FACE Neighborhoods is in the form of various public improvements, such as street lighting, street trees and street paving, which it installs in the areas. Public utilities assist area beautification by undergrounding overhead wires on key streets in the areas. Work done by the City was essentially completed in Areas 1-4 and totalled 786,000 for that work excluding engineering and inspection costs. Charts D and E show the nature and extent of the public improvements for all seven areas listing initial estimated costs and completed costs for perspective.



BEFORE



AFTER

Similar public improvements are planned for Areas 5-7, which were in the 5th Amendatory application and approved by HUD in April 1971.

## CHART D

## PUBLIC IMPROVEMENTS IN AREAS 1-4

	Number	Lineal Feet	Initial Estimated Cost (in 1000s)	Cost Of Work In Place (in 1000s)
Streets		5280	408	321
Curbs and Gutters		7920	28	23
Sidewalks		7920	31	31
Traffic Lights	12		42	17
Street Lights	152		217	86
Fire & Police Communications	5		0	23
Street Trees	965		111	81
Other			301	204
TOTAL			1138	786

(Note that the cost figures given do not include the 20% cost for engineering and inspection)

## CHART E

## PUBLIC IMPROVEMENTS IN AREAS 5-7

	Number	Lineal Feet	Initial Estimated Cost (in 1000s)	Current Estimated Cost (in 1000s)	Cost Of Work In Place (in 1000s)
Streets		5780	310	342	0
Curbs and Gutters		10780	45	47	0
Sidewalks		10780	80	82	0
Traffic Lights					
Street Lights		220	254	256	37
Fire & Police Communications			100		0
Street Trees		490	144	128	0
Other			137	138	0
TOTAL			1070	993	37

(Note that the cost figures given do not include the 20% cost for engineering and inspection)

## CHART F

## RELOCATION OF FAMILIES AND INDIVIDUALS

Relocation services for persons displaced by FACE Program activities are provided by the Central Relocation Service of the San Francisco Redevelopment Agency. Since the inception of the FACE Program, 54 families and 45 individuals have been relocated in the seven areas. Relocation distribution was as follows:

	Families	Individuals
Net estimated workload in original application	187	357
Estimated eligible for Federally aided low rent housing	62	115
Total actual workload, June 30, 1971	61	48
Total removed from workload, June 30, 1971	54	45
Federally-aided low-rent housing	3	5
Other publicly aided low rent housing	2	1
Federal rent supplement housing	0	0
Standard private housing not reported above	28	22

	Families	Individuals
Substandard housing	2	5
Whereabouts unknown	3	0
No more required	3	2
Refused inspection	4	2
Moved out of the City	8	4
Deceased	0	1
In workload, end of period (June 30, 1971)	7	3
Evicted to date (June 30, 1971)	0	0

### ABATEMENT SECTION

Cases which may have been brought into compliance by the District Building Inspector or by the inspectors in the Division of Apartment House and Hotel Inspection are referred to the Abatement Section of the Division of Property Conservation for possible litigation. On receipt of one of these cases a priority number is assigned the case. The lower the number the greater the hazard and the earlier an inspection is scheduled by the District Complaint Inspector. The Inspector prepares a detailed report of the condition of the building, describing the violations that may exist. A copy of this report is presented to the property owner, and the Inspector consults with him to determine the best course of action to correct the deficiencies. If the owner is unable or uncooperative, a public hearing is scheduled before the Director of Public Works at which time he may order a building to be repaired or demolished. Upon failure of the owner to comply with this order, the Director may decide to repair or demolish the building under a Public Works contract and recover the costs of such work by means of a tax lien.

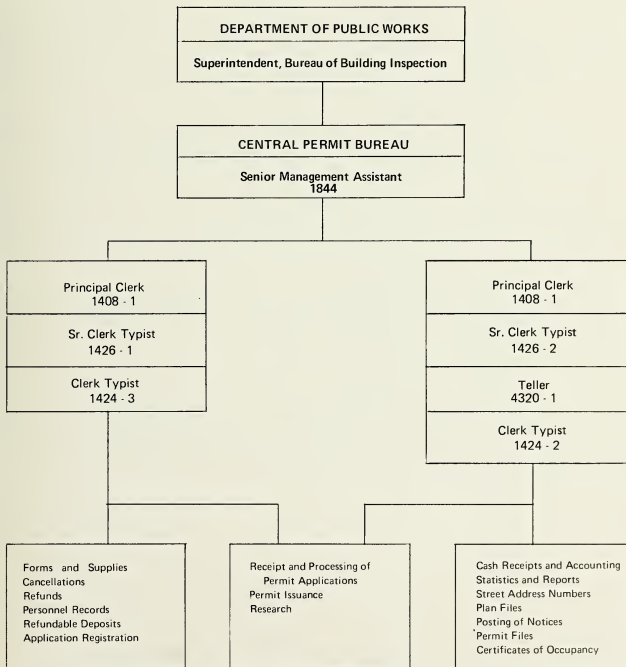
The Division also provides three inspectors to the San Francisco Redevelopment Agency on a full-time work order. One Building Inspector performs inspection related to the rehabilitation of buildings in the YBC, A-2, Hunters Point and Bayview Projects, and two Environmental Health Inspectors work with the Central Family Relocation Service.

### ABATEMENT ACTIVITIES FOR FISCAL YEAR 1971

Cases Logged in	610
Initial Inspections	651
Buildings Found in Compliance	19
Cases Sent to Condemnation Hearing	659
Buildings Ordered Condemned	362
Cases Referred to City Attorney	174
Appeals Filed to Abatement Appeals Board	108
Abatement Appeals Board Decisions Rendered	439
Cases Referred to Court	4
Buildings Restored	251
Buildings Demolished	96

DEPARTMENT OF PUBLIC WORKS  
CENTRAL PERMIT BUREAU  
ORGANIZATION CHART

June 30, 1971





## CENTRAL PERMIT BUREAU

Clyde Volens — Senior Management Assistant

### FUNCTIONS

The principal function of the Central Permit Bureau is the issuance of all permits under the jurisdiction of the Department of Public Works, and the collection of appropriate permit fees and deposits. Included are permits covering each aspect of the erection, alteration, demolition and moving of buildings; permits for all types of billboards and signs; permits involving the use of excavations of streets and sidewalks; and all plumbing gas appliances, and electrical permits.

It is the duty of the staff of the Central Permit Bureau to receive applications for the various types of permits, and route them to appropriate agencies for processing. When the applications are properly approved, the staff collects necessary fees and deposits, and issues the permits.

The Central Permit Bureau is the custodian of public records relevant to permits issued by the Department of Public Works, and of all plans and specifications approved in conjunction with those permits. Those records date back to the 1906 Earthquake and are assuming more importance each year in determining the status of buildings affected by our urban renewal program.

Another service performed in this Bureau is the assignment of street addresses to all new buildings and the elimination of possible confusion resulting from the improper existing numbers. Our official house number records constitute an important source of information for government agencies, realtors, title insurance companies, and other activities concerned with the verification of correct street numbers for buildings.

It is a function of the Central Permit Bureau to receive payments for bills covering claims for damages to property under the jurisdiction of the Department of Public Works, and for costs in excess of deposits in the installation of side sewers. The monies collected from these bills, as well as all other monetary receipts of the Department of Public Works, are cleared through this Bureau for deposit in the proper funds in the City Treasury.

**THE FOLLOWING TABLES ILLUSTRATE THE SCOPE OF THE ACTIVITIES OF THE  
CENTRAL PERMIT BUREAU**

**TABLE I  
PERMITS ISSUED AND FEES RECEIVED**

	1970-71		1969-70	
	PERMITS	FEES	PERMITS	FEES
Building Permit	11,230	\$ 384,786	12,121	\$ 452,918
Application Filing Fees	9,599	(Above)	10,265	(Above)
Demolition	464	8,845	458	8,345
Boiler Installation	130	2,425	163	2,223
Boiler Inspection	652	8,134	867	10,369
Street Space*	542	96,136	583	210,944
House Number	382	2,508	278	1,389
House Moving	6	120	7	60
House Moving Investigation Fee	4	60	3	45
Excavation (Public Utilities)	15,356	30,712	15,791	31,582
Excavation and Curb (Other)*	380	2,589	316	1,970
Partition Relocation	175	525		
Flue	1,303	4,469	1,063	3,478
Posting Notice	313	791	278	677
Flower Market	52	1,716	48	1,524
Advertising	7	1,547	11	2,119
Survey	10	6,836	8	4,700
Engineering Inspection	60	32,204	70	35,579
Electrical Wiring and/or Fixture	10,517	267,175	10,512	301,200
Electrical Sign	1,709	8,383	1,866	7,618
Electrical Sales	2,339	32,437	2,442	30,849
Plant Owner	48	578	43	516
Plan Checking	2,842	270,804	3,205	211,104
Garage Door Coupons	625	1,875	625	1,875
Hearings for Code Variances	29	290	35	350
Hearings for Substitute Materials	1	150	3	450
Plumbing Fixture and Gas Appliance				
Installation and Inspection	11,139	215,784	10,914	148,089
Journeyman Plumbers License	732	3,421	849	1,698
Gas Appliance Dealer	54	890	36	360
Residential Inspection Report	2	140	10	735
Residential Record Report	6,212	40,675	4,629	23,010
Dump Permits			1	25
Blasting Permits	5	60	7	48
Sidewalk Permits	1,429	11,175	1,309	11,860
Sub-Sidewalk Space*	27	115	23	95
Debris Box	7,875	15,838	8,250	18,820
TOTAL – TABLE I	86,250	\$ 1,454,193	87,089	\$ 1,526,624
TOTAL – TABLE II	1,941	474,042	2,213	540,169
TOTAL – TABLE III		12,111,774		11,759,141
GRAND TOTAL – PERMITS AND RECEIPTS	88,191	\$14,040,009	89,302	\$13,825,934

\* Permits and Fees only. See Table II for Refundable Deposits.

**TABLE II**  
**PRIVATE TRUST FUND DEPOSITS**

	1970-71		1969-70	
	PERMITS	DEPOSITS	PERMITS	DEPOSITS
<b>REFUNDABLE DEPOSITS</b>				
Street Space	*	\$ 19,790	*	\$ 12,840
Sub-Sidewalk	*	5,910	*	13,740
Deposit on Plans	1,442	76,470	1,684	73,855
Excavations	*	1,020	*	647
<b>TOTAL</b>	<b>1,442</b>	<b>\$103,190</b>	<b>1,684</b>	<b>\$101,082</b>

\* Street Space, Sub-Sidewalk and Excavations require both a fee and a deposit. Amounts shown are deposits only.

**PARTIALLY REFUNDABLE DEPOSITS**

Side Sewers	284	\$278,800	339	\$366,730
Side Sewers - Excess Costs		36,326		30,576
<b>TOTAL</b>	<b>284</b>	<b>\$315,126</b>	<b>339</b>	<b>\$397,306</b>

**AGENCY DEPOSITS**

Street Improvement Bonds	215	55,728	190	41,781
<b>TOTAL TRUST FUND DEPOSITS</b>	<b>1,941</b>	<b>\$474,044</b>	<b>2,213</b>	<b>\$540,169</b>

**TABLE III**  
**OTHER RECEIPTS**

	1970-71	1969-70
General Fund	\$ 2,433,020	\$ 2,765,072
Special Gas Tax-Street Improvement Fund	5,555,587	5,548,358
Road Fund	4,082,969	3,442,704
State Highway Trust Fund	26,132	
1964 School Bond Fund	13,250	
1965 Medical Center Bond Fund	816	
1955 Playground & Recreation Centers Bond Fund		2,000
S.F. Unified School District Fund		849
1968 Sewer Bond Fund		158
<b>TOTAL OTHER RECEIPTS</b>	<b>\$12,111,774</b>	<b>\$11,759,141</b>

**TABLE IV**  
**STATEMENT OF CONDITION - PRIVATE TRUST FUNDS**  
**As of June 30, 1971**

	BALANCE June 30, 1970	DEPOSITS 1970-71	REFUNDS 1970-71	BALANCE June 30, 1971
Excavation	\$ 4,363	\$ 1,020	\$ 1,499	\$ 3,884
Street Space & Sub-Sidewalk	180,256	25,700	37,900	168,056
Plans and Specifications	27,361	76,470	72,695	31,136

## PERSONNEL

As of June 30, 1971

Alfred Goldberg, Superintendent  
 W.A. Kastius, Assistant Superintendent

GENERAL OFFICE — ADMINISTRATIVE	1	1408	Principal Clerk
C.V. Gieseke, Principal Clerk	2	1446	Senior Clerk Steno
	1	1444	Clerk Steno
	1	1424	Clerk Typist
	<u>5</u>		
PLANS APPROVAL DIVISION	1	5210	Senior Civil Engineer
M. Choy, Senior Civil Engineer	1	5214	Bldg. Plans Engr.
H.Y.G. Fong, Building Plans Engineer	7	5208	Civil Engineer
	1	5206	Assoc. Civil Engr.
	2	6266	Sr. Plan Checker
	2	6264	Plan Checker
	<u>1</u>	1424	Clerk Typist
	15		
BUILDING INSPECTION DIVISION	2	6334	Chief Bldg. Inspector
R. McDonnell, Chief Inspector	18	6331	Bldg. Inspector
	<u>20</u>		
ELECTRICAL INSPECTION DIVISION	1	6250	Chief Electrical Insp.
W.O. Maitland, Chief Inspector	17	6248	Electrical Insp.
	1	6252	Line Inspector
	1	1446	Senior Clerk Steno
	<u>1</u>	1424	Clerk Typist
	21		
PLUMBING INSPECTION DIVISION	1	6244	Chief Plumbing Insp.
G. Tusch, Chief Inspector	7	6242	Plumbing Insp.
	<u>1</u>	1444	Clerk Steno
	9		
BOILER INSPECTION DIVISION	1	6238	Sr. Boiler Inspector
J.T. Edson, Senior Inspector	<u>1</u>	6236	Boiler Inspector
	2		
APARTMENT & HOTEL INSPECTION DIVISION	1	6124	Principal Food & Environ- mental Health Inspector
E. Orr, Principal Inspector			
A. Chinn, Senior Inspector	1	6122	Senior Food & Environ- mental Health Inspector
	12	6120	Food & Environmental Health Inspector
	1	1444	Clerk Steno
	<u>1</u>	1424	Clerk Typist
	16		

RESIDENTIAL BUILDING RECORDS SECTION	1	B516	Sr. Clerk Typist
J. Farr, Senior Clerk	<u>2</u>	1424	Clerk Typist
	3		
PROPERTY CONSERVATION DIVISION	1	5286	Chief, Property Conservation Division
B.A. Cummings, Chief - PCD	1	6334	Chief Building Inspector
A.S. Cole, Chief Inspector	10	6331	Building Inspector
	3	6248	Electrical Inspector
	1	6242	Plumbing Inspector
	2	6120	Food & Environmental Health Inspector
	1	1446	Senior Clerk Steno
	1	1444	Clerk Steno
	<u>1</u>	1424	Clerk Typist
	21		
TOTAL BUDGETED PERSONNEL*	114		

*\*Does not include FACE positions.*

#### RETIREMENTS

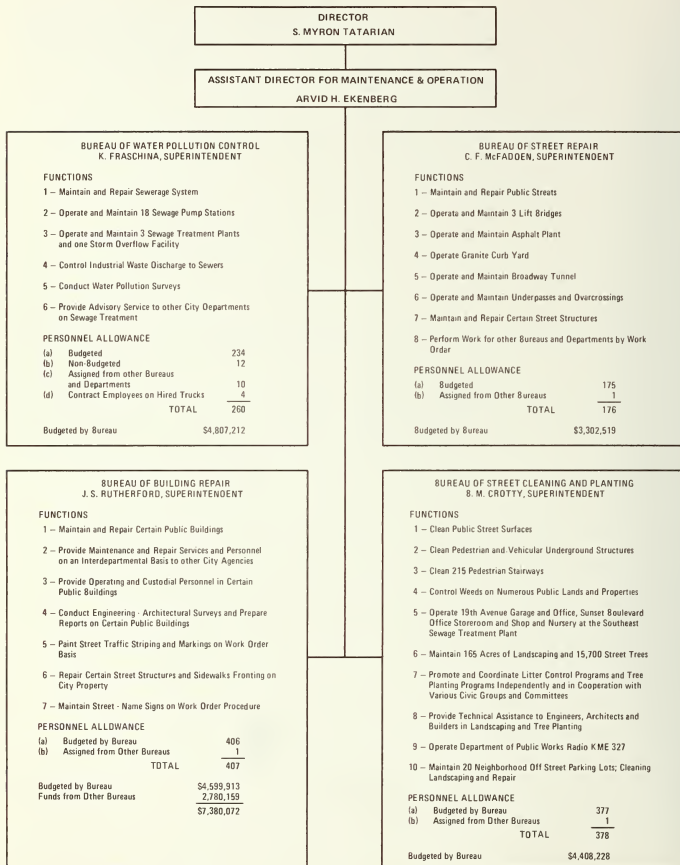
During the past year, the following employees were retired and recognition is given for their faithful service to the organization:

STEPHEN NEMETH	6331	Building Inspector	32 Years
FREDERICK TAYLOR	6242	Plumbing Inspector	32 Years
ALBERT MC GUIRK	6248	Electrical Inspector	26 Years
LARS HATLEN	6331	Building Inspector	11 Years





**ORGANIZATION RELATIONSHIPS**  
**MAINTENANCE — REPAIR — OPERATION**  
 1970 — 71



**SUMMARY**

Total Personnel Allowance	1221
Total Budgeted, plus Reimbursements	\$19,898,031

## MAINTENANCE AND OPERATION BUREAUS

Arvid H. Ekenberg,

Assistant Director of Public Works, Maintenance and Operations

### GENERAL

The maintenance and operational functions of the Department of Public Works are centered in the four bureaus of Water Pollution Control, Street Repair, Street Cleaning and Tree Planting, and Building Repair, with a total of 1221 employees. Functional and organizational relationships of the various bureaus are indicated in other sections of the report.

For the past several years, virtually no change has occurred in the overall staffing of the various bureaus, although this year a diminution of three permanent employments has resulted from budget retrenchments. In general, for several prior years, most personnel increases for the operating bureaus have been directly attributable to transfers of functions and personnel from other departments, with some few new positions added only as a direct result of the tremendous increase in emphasis on water pollution control. Thus, while it appears on the surface that little personnel change has taken place, there has actually been a reduction of personnel in Building Repair and Street Cleaning functions, no change in Street Repair, and a modest increase in Water Pollution Control. The loss of maintenance capabilities in Building Repair and Street Cleaning is sorely felt, and, in addition to budget cuts, maintenance levels are further reduced by the continual decrease in available man-hours occasioned by the rapid trend away from the traditional 40 hour week.

To date, our operating bureaus have been unsuccessful in their endeavors to obtain employments to close or lessen this widening man-hours gap. The net loss is accentuated by such factors as the increasing age and obsolescence of the multi-million dollars in properties and facilities for which we are responsible, as well as by the greater demands and needs of a changing society. Without some recognition of the ever growing problem, and compensatory adjustments therefore, it is our conviction that the level of services provided by these bureaus will be reduced to a point where actual damaging results may be anticipated.

In the closing month of this fiscal year, the Department took on the awesome responsibility of a youth employment program for the summer months, intended to provide meaningful employment during the vacation period for youths planning to resume their education in the fall. The program, originally designed to incorporate 30 youths into our maintenance operations, finally burgeoned into one which will employ 440 youths for the season on a 6 hour day. Responsibility for the overall management of the program was ultimately vested in the Bureau of Street Cleaning and Planting since it utilized their services to the greatest extent, although other bureaus participated to varying degrees. The problems, the prospects, and the potentials for the program will necessarily be evaluated and dealt with in detail in the next annual report.

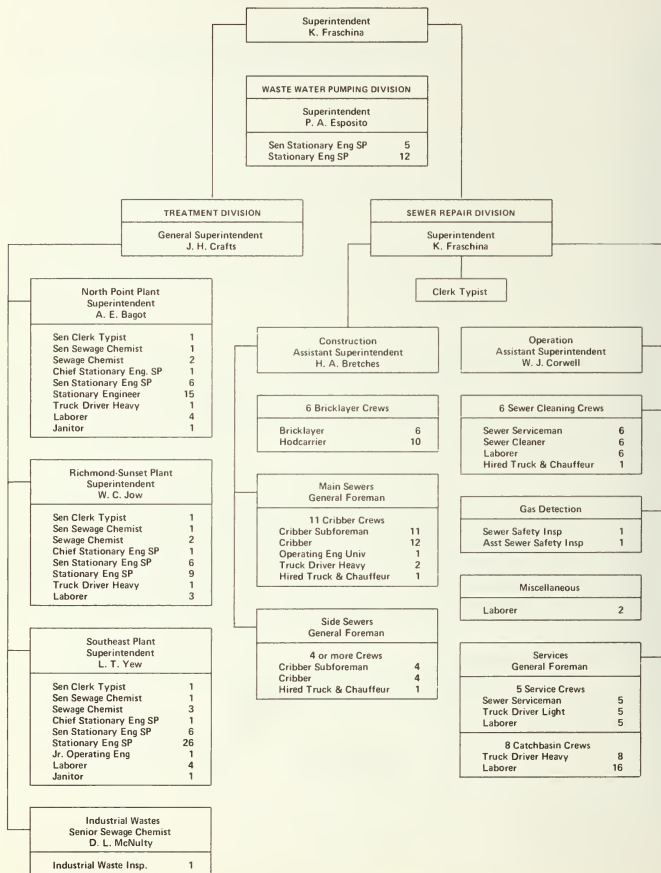
### EXPENDITURES

Expenditures by Maintenance and Operation Bureaus amounted to \$17,117,873 from budgeted appropriations and \$2,780,159 from funds received by work order, or a total of \$19,144,963. A breakdown of expenditures and per capita costs follows:

	TOTAL EXPENDITURES	PER CAPITA COST BASED ON 1970 CENSUS COUNT OF 715,674
Street Repair	\$ 3,180,798	\$ 4.444
Water Pollution Control	4,641,801	6.486
Building Repair	7,194,057	10.052
Street Cleaning and Planting	4,128,307	5.768
TOTAL	\$19,144,963	\$26.75

**ORGANIZATION CHART**  
**BUREAU OF WATER POLLUTION CONTROL**  
**DEPARTMENT OF PUBLIC WORKS**

June 30, 1971



## BUREAU OF WATER POLLUTION CONTROL

K. Fraschina, Superintendent

The Bureau of Water Pollution Control maintains 900 miles of sewers, controls industrial wastes discharge to sewers, and operates 17 active and one standby pumping stations, a new storm overflow treatment facility from October 1970 and 3 treatment plants. During 1970-71 the Bureau had 234 budgeted employees, supplemented by 8 to 10 non-budgeted employees and 4 hired trucks with drivers in the Sewer Repair division, and 4 maintenance personnel assigned from other bureaus and departments in the treatment plants.

The Bureau spent \$4,631,864 in budgeted funds as follows:

PERSONAL SERVICES	WASTEWATER TREATMENT	WASTEWATER PUMPING	SEWER REPAIR
Permanent Salaries*	\$ 618,414	\$ 89,415	\$ 148,015
Overtime*	889	391	2,998
Holidays*	11,001	2,698	2,114
Temporary Salaries*	8,170	1,684	
Wages (Per Diem)	970,412	169,694	1,269,633
Sub-Total	1,608,886	263,882	1,422,760
CONTRACTUAL SERVICES			
Power & Gas**	157,562	39,091	
Plant Equipment	136,939	26,987	
Field Equipment	4,251	1,445	43,869
Sludge Disposal	72,602		
Industrial Waste Control	56,682		
Quality Monitoring	75,146		
Landscape Maintenance	24,326		
Miscellaneous Services	6,482	1,061	10,516
Hired Trucks			56,436
Sub-Total	533,990	68,584	110,821
MATERIALS AND SUPPLIES			
Replacement Parts	45,838	1,900	1,272
Field	700		48,214
Plant	20,705	4,300	
Fuels and Lubricants	2,990	1,248	11,151
Treatment Chemicals	444,066		
Sub-Total	514,299	7,448	60,637
EQUIPMENT			
New	29,814		
Replacement	6,202	2,837	1,704
Sub-Total	36,016	2,837	1,704
TOTAL	\$2,693,191	\$342,751	\$1,595,922

\* Monthly Employees

\*\* In Public Utilities Commission budget

In addition, the Sewer Repair Division expended \$253,290 for side sewers paid for by property owners and \$816 on work orders from other departments. The Wastewater Treatment Division received \$2,115 for advisory services to other departments.

## SEWER REPAIR DIVISION

The Division cleans, repairs, and makes minor additions to main sewers, side sewers, and related structures; tests sewers for oxygen deficiency and for explosive and toxic gases; and controls mosquitos in catch basins.

The Division has 110 budgeted employees, 8 to 10 non-budgeted employees (12 are authorized) for side sewer installation and repair paid for by property owners, and 4 hired trucks with drivers. The dollar amount of side sewer work increased somewhat over last year but still reflects continuing depressed activity in residential building construction. Work units or groups are as shown in the organization chart. Details of unit functions, methods of operation, and equipment used are the same as described in the 1965-66 Annual Report. While many of these groups frequently assist each other, the material trucks, digging unit, and compressor unit are almost entirely subsidiary as their principal function is to assist other units. The Bureau received 6,312 telephone complaints in the year, a decrease of 14% from last year. The activities of the work units are summarized in the Work and Cost Distribution table (Chart I). The work done by the service units is tabulated below. The table format has been changed to better describe functions performed and to eliminate entry duplications. Thus some entries and number of calls are not directly comparable with previous reports.

CHART I

SEWER REPAIR DIVISION  
WORK AND COST DISTRIBUTION

Work Unit	Work Done	% of Time	Total Cost (a)		Unit Cost (a)
1 Sewer cleaning	562,265 Lineal ft cleaned Other work	96.8 3.2	\$141,024 4,655	\$145,679	\$0.25
2 Eductor operations	13,165 Catchbasins cleaned Other work	72.2 27.8	193,136 74,263	267,399	14.67
3 Services	6,312 Complaints serviced Other work	51.5 48.5	111,796 105,449	217,245	17.71
4 Main pipe sewers	5,704 Lineal ft repaired at 412 locations		344,197	344,197	60.34
5 Brickwork	11,756 Lineal ft brick sewer repaired 8 Catchbasins constructed 2 Manholes constructed 214 Catchbasins repaired 160 Manholes repaired	71.2 5.5 1.4 11.7 10.2	121,417 9,304 2,441 19,876 17,449		10.33 1,163.00 1,220.50 92.88 109.06
6 Gas detection	2,903 Manholes tested Other work		3,793 20,244	24,037	1.31
7 Miscellaneous			219,525	219,525	
Total budgeted work				\$1,388,569	
8 Work orders (b)				816	
9 Side sewers (c)	143 Installations 131 Repairs 17 Connections		149,165 100,492 3,633	253,290	1,043.11 767.11 213.71
Grand Total				\$1,642,675	

(a) Costs do not include supervision, overhead or other indirect charges.

(b) Repairs for other bureaus or departments.

(c) Paid for by property owners.

SIDE SEWER	NO. CALLS	PERCENT	
Relieved clogged side sewer	1,786	14.3	
Unable to relieve side sewer	354	2.8	
Found side sewer broken	143	1.1	
Found trouble inside property	169	1.4	
Determine if side sewer exists	382	3.1	
Examine for crew on job	25	0.2	
Wet down backfill	17	0.2	23.1
MAIN SEWER			
Investigation to find cause of problem	809	6.5	
Relieved clogged main sewer	273	2.2	
Unable to relieve main sewer	92	0.7	
Found main sewer broken	158	1.3	
Examine for crew on job	127	1.0	
Wet down backfill	97	0.8	12.5
CATCHBASINS AND MANHOLES			
Remove obstruction	603	4.9	
Examine catchbasin curb inlet	361	2.9	
Replace cover	240	1.9	
Silence noisy cover	362	2.9	
Catchbasins & manholes found broken	60	0.5	
Unable to relieve catchbasins	49	0.4	13.5
DEPRESSIONS			
Investigation to find cause	1,197	9.6	
Not caused by sewers	529	4.2	
Caused by sewers	131	1.1	14.9
MISCELLANEOUS			
Service lights and barricades	3,705	29.7	
Investigate seepage and leaks	138	1.1	
Clean pump station	177	1.4	
Deliver material to job	345	2.8	
Not classified	119	1.0	
Remove deposits from sidewalk	3	0.0	
Mosquitoes	1	0.0	36.0
TOTAL	12,452	100.0	

Rainfall was slightly below normal this year. Two storms occurred with rainfall intensities at times exceeding the 5-year design rate, resulting in widespread complaints of flooding and popped manhole covers. The division received 130 telephone calls in the first storm from November 27 to 29, and 189 telephone calls in the second storm on March 12. The nature and frequency of the complaints are tabulated below:

	November 27-29	March 12
Side sewer flooded	18	57
Catchbasin flooded	77	83
Manhole cover off	13	31
Hole in street	7	2
Main sewer clogged	3	8
Street flooded	12	8
TOTAL	130	189

One major sewer failure occurred during the year. Internal inspection by sewer photography of the old 2' x 3' brick sewer in Jackson Street disclosed that 79' of the crown had collapsed between Powell and Stockton Streets creating a void under the pavement, although there was no impairment of flow or any evidence of pavement failure at the ground surface. This disclosure made it possible to repair the sewer before the pavement collapsed, and demonstrated the value of internal sewer photography in pinpointing trouble areas in inaccessible sewers and avoiding the hazards associated with street pavement failure.

### WASTEWATER PUMPING STATIONS

The Division has 18 budgeted employees and operates and maintains one storm water overflow treatment plant, 17 continuously operating stations and one standby station in the Lake Merced area. Division activities are summarized in Chart II. Three new employees were added during the year for operation of the Baker Street facility and increased maintenance of all facilities.

CHART II

#### WASTE WATER PUMPING STATIONS EXPENDITURES AND COST DATA 1970-71

Location	Drainage Area In Acres	Million Gallons Pumped	Salaries	Maintenance	Power	Materials & Supplies	Totals	Cost Per Mil Gal Pumped
1. Pumping Stations								
General			\$10,848	\$1,445	\$54	\$1,425	\$13,723	\$1.42
Drum Street	332	1,279b	32,568	3,646	4,253	562	41,029	32.08
Fourth Street North	138	2,184b	54,316	6,451	6,334	994	68,095	31.28
Fourth Street South	25	136	1,078	230	649	43	2,050	14.86
Phelan Street	82	65	2,153	140	1,116	21	3,460	40.71
Hunters Point	90	111	3,231	280	856	43	4,410	31.28
Hyde Street	11	60	1,077	140	427	21	1,665	27.75
Lake Merced	930	482b	15,210	1,404	3,658	217	20,489	47.62e
Marina	1,125	2,752	52,307	6,414	6,579	1,297	68,597	24.93
Lariposa Street	117	224	6,462	561	1,721	86	8,830	39.42
Palace of Fine Arts	2	34	535	70	97	11	713	20.97
Park Merced (d)			1,077		1,366		2,443	
PineLake	3	5	535	110	310	21	1,006	201.20
Sea Cliff #1	4	4	535	70	69	11	685	171.25
Sea Cliff #2	84	176	2,114	561	2,397	86	5,148	29.15
Tennessee Street	2	21	546	70	306	11	933	44.43
Twentieth Street	27	68	1,076	70	417	11	1,574	23.15
Vicente Street	52	95	1,076	110	1,011	21	2,248	23.66
Yosemite Avenue	1,277	1,681b	41,325	5,611	5,678	806	53,480	26.43
Totals	4,304	9,631	\$226,099	\$29,493	\$37,299	\$5,747	\$300,638	31.22
2. Baker Street Storm Overflow Facility			\$35,783		\$1,792	\$1,701	\$39,276	
3. Equipment							\$2,637	
Total Expenditures							\$342,751	

(a) Power for 24th Ave and Lake St gate.

(b) Apparent decrease from last year attributed to metering errors in last year.

(c) Cost for maintaining Park Merced as a standby station included.

(d) Maintained as a standby for 212 acres tributary to Lake Merced station.

The Baker Street dissolved air flotation facility to treat combined storm overflow from the related drainage district was completed in October 1970. The facility, which has a design capacity of 24 mgd, was operated during the year on an experimental basis to evaluate design criteria and to optimize operation.

With the exception of the Tennessee Street station, the stations are designed to handle normal dry weather flow plus runoff from 0.02 in. per hour rainfall. The Lake Merced station is equipped with variable speed pumps with speed varied to match flow by a combination of electrical controls and pneumatic sump level sensors. The other stations are equipped with fixed speed pumps operated intermittently in various combinations to match incoming flow. Pump



operation is controlled by switches which function at fixed sump levels. At 10 stations the switches are operated by floats and at the Fourth Street South and Twentieth Street stations by pneumatic level sensors. Automatic influent throttling gates at Drumm Street, Fourth Street North, Lake Merced, Marina, Sea Cliff No. 2 and Yosemite Avenue stations allow operation at full capacity during storms.

At the Fourth Street North station reduction of sump size and piping revisions to convert pump check valves from vertical to horizontal were completed during the year. The improvements have virtually eliminated scum and deposition problems in the sump and significantly reduced maintenance of the check valves.

Stations are serviced by two man roving crews on a 24-hour per day, 7 day per week schedule. In addition, the Sea Cliff No. 2, Marina and Drumm Street stations each have one man assigned full time five days per week. The Marina and Sea Cliff No. 2 stations require more attention than other stations due to their age and the critical areas served. The Drumm Street station still receives considerable construction debris which must be removed promptly from the sump during the work week. In addition the Drumm Street station has no emergency overflow. In order to insure the reliability of the emergency diesel generator set and prevent power outage caused flooding of major downtown buildings served by the station, it is necessary to start and service the generator set on a five day basis.

Major operating problems during the year were caused by the following:

Malfunction of hydraulic gate control systems at Fourth Street North and Sea Cliff No. 2 stations.

Malfunction of pumping equipment at Fourth Street South Station.

Major maintenance was as follows:

Drumm Street: Replaced bearings in No. 3 pump.

Fulton Street: Replaced No. 1 pump check valve and repaired No. 2 pump check valve.

Hyde Street: Replaced overflow sensor in manhole.

Lake Merced: Replaced bearings in both pumps.

Marina: Repaired No. 2 pump check valve and replaced bar rack and seal water solenoids.

Mariposa Street: Replaced No. 1 pump discharge valve and No. 2 pump motor circuit breaker. Installed shaft sleeves in both pumps.

Pinelake: Repaired force main.

Sea Cliff No. 2: Repaired No. 2 pump seal water line.

Twentieth Street: Repaired No. 2 pump controls and replaced south sump pump and No. 2 pump suction plate.

Yosemite Avenue: Repaired selectrol and hydraulic control switches.

Vandalism damage repairs consisting of painting and door lock replacement at Pinelake, Vicente Street and Yosemite Avenue stations.

### TREATMENT DIVISION

The division operates and maintains the North Point, Richmond-Sunset and Southeast Water Pollution Control plants, controls industrial waste discharges, makes field sanitary surveys and advises other City departments on sewage treatment facilities under their jurisdiction.

The division has 106 budgeted employees distributed as shown in the organization chart, supplemented by four employees assigned from the Bureau of Building Repair. In addition, work

order funds were used to employ five laboratory personnel to implement expanded self-monitoring programs and a new industrial waste ordinance, two industrial waste personnel to implement a new industrial waste ordinance and one Management Assistant. A consulting firm was employed to provide offshore sampling and bioscience services. Major repairs and maintenance required specialized crafts are done by work order to other Public Works bureaus and the Purchaser's Shops or by contract with private firms. Funds are transferred to the Bureau of Street Cleaning and Planting for care of landscaping.

Methods used to provide primary treatment are described in the 1965-66 annual report. Treatment activity is summarized in Chart III. Cost of operation was approximately \$3.59 per capita based on an estimated tributary population of 750,000, including commuters and other transients.

A major innovation in treatment at the North Point plant was started during the year. Bay water is added to the wastewater upstream of the plant to increase the concentration of dissolved salts. Then ferric chloride is added as a flocculant after coarse screening and grit removal. During a portion of the day when the flow or strength of wastewater is high, an organic polymer is also added as a flocculant aid. This combination chemical treatment has improved removals of suspended matter, settleable matter, grease and turbidity.

At the North Point plant a chemical treatment system was installed including a liquid ferric chloride storage and feed system and a salt water pumping and control system. Work on the ferric chloride automatic feed controls was still in progress as of June 30, 1971. A third chlorinator evaporator set was installed which increased chlorination capacity from 16,000 lb/day to 24,000 lb/day. A scum collection system was installed in the effluent launder section of the sedimentation tanks to reduce floatables in the effluent. The raw sludge pumps piping was revised to improve cleaning of lines. Grit tanks No. 1 and No. 2 were modified to use a new portable submersible dewatering pump in order to reduce maintenance downtime.

At the Richmond-Sunset plant, contract work to increase the capacity of the influent channels and bar racks which commenced in June 1969 was completed in March 1971. Problems with the new screening system resulted in a reduction in screening removed compared with 1969-70, which in turn increased plugging of sludge pumps and piping. Correction of the problems is scheduled for the next fiscal year. Maximum storm flow through the plant was restricted due to contract work and lack of grit pumping capacity. Work to increase grit pump capacity is scheduled in the next fiscal year. A liquid ferric chloride flocculation system was completed and tested as of June 30, 1971.

At the Southeast plant, the improvement work for Digesters No. 7, No. 8 and No. 9 which commenced in August 1969 was completed during the year. Contract work on No. 1 and No. 2 sedimentation tanks to improve efficiency was completed with the exception of the chemical feed system. The plans were modified during the year to provide ferric chloride flocculation of all flow. As of June 30, 1971 the ferric system automatic controls were not completed. A new chlorine residual analyzer controller was installed to improve chlorination.

Major maintenance work during the year included the following:

#### NORTH POINT PLANT

Grit System: Rebuild two grit washers. Replaced 10 hp motors driving grit pumps in Station 1. with 20 hp motors. Replaced dewatering screw and trough in tank No. 4.

Lift Station: Replaced spray water system in east and west sumps.

Samplers: Replaced influent and effluent automatic samplers.

Sedimentation System: Renewed wearing and guide rails and flight wearing shoes in No. 1 and No. 2 tanks. Replaced collector drive units in all six sedimentation tanks.

## CHART III

TREATMENT PLANT OPERATION  
1970-71

	North Point	Richmond-Sunset	Southeast
<b>1. Wastewater Treatment</b>			
Flow, million gallons			
Total (a)	23,820	7,732	8,150
Avg day	65.3	21.3	22.4
Max day, dry weather(b)	61.9	20.9	21.6
Max day, wet weather	117.7	31.5	37.8
Max day, dry weather	72.7	25.3	31.2
Max rate, wet weather	172	50	43
Max rate, dry weather	102	42	44
Screenings, cu ft			
Total	44,975	17,558	30,986(c)
Max day	420	83	662
Per million gallons	1.9	2.3	3.8
Grit, cu ft			
Total	55,786	30,564	(c)
Max day	554	578	
Per million gallons	2.3	4.0	
Grit & screening hauling, trips	584	212	307
Chlorination, lb(d)			
Pre	615,780		1,532,390
Post	1,476,440	853,100	2,602,900
Total	2,092,220	853,100	4,135,290
mg per liter	11.6	13.2	61.3
Treatment Chemicals			
Ferric chloride, lb	2,425,000(e)		
Polymer, lb	15,700(e)		
Sludge Solids, M lb (dry)			
From sedimentation	32,575	7,942	61,980(f)
<b>2. Sludge Processing</b>			
Sludge Solids, M lb (dry)			
To digesters		7,942	58,988(g)
Filter cake		1,570	20,873(h)
Digester Gas Produced, M cu ft			
Total		74,213	240,177
Avg day		203	650
Vacuum Filtration Chemicals			
Ferric chloride, lb		58,110	621,030
Ferric chloride, %		3.7	2.98
Lime, lb			4,762,340
Lime, %			22.8
Filter Cake Hauling to Parks, trips		439	
<b>3. Power and Gas Purchased</b>			
Power, total M kwh	6,583.6	2,296.8	6,496.3
Power, avg M kwh/mo	548.6	191.4	541.4
Natural gas, total therms	93,247	14,724	268,370(i)
Natural gas, avg therms/mo	7,771	1,227	22,364

- (a) For 364.8 days North Point; 363.5 days Richmond-Sunset; 364.6 days Southeast.  
 (b) Excluding days with .01 inch or more rain and dry days following days with .05 inch or more rain.  
 (c) Combined screenings and grit; discharged into common storage bin.  
 (d) Pre-chlorination for odor control as needed at North Point and continuous at Southeast. Post-chlorination continuous.  
 (e) Initial operation was intermittent and widely varying dosages were used to evaluate parameters and optimize operation. After operation was stabilized the ferric chloride feed rate averaged about 25 mg/l and the polymer feed rate averaged about 0.25 mg/l.  
 (f) Includes recirculating load from sludge processing overflows.  
 (g) From thickeners receiving North Point and Southeast solids from sedimentation.  
 (h) On wet basis: 38,230 tons hauled to sanitary fill. Increase over prior year due to installation of new filtration equipment completed in June 1970.  
 (i) High usage due to extended period for repair of digester gas compressor.

**RICHMOND-SUNSET PLANT**

Chlorination System: Repaired chlorinator control system.

**SOUTHEAST PLANT**

Bar Racks: Repaired flap gate on west screen once and on east screen twice.

Effluent Pump Station: Replaced pump motor brushes. Repaired magnetic speed control system and sump level control system.

Elutriation System: Replaced scum collectors in No. 5 and No. 7 tanks. Repaired collectors in No. 1 and No. 2 tanks. Renewed flights, chain and hangers in scum concentrator.

Filter System: Rubber coated inside and outside of corroded No. 1 filter sludge conditioner. Replaced inclined conveyor belt to filter cake storage bin.

Grit System: Replaced all chain, hangers, rails, wearing shoes and sprockets in north tank. Made partial repairs to collectors three times in north tank and twice in south tank.

Lift Station: Repaired damaged pump control system for two of the four main lift pumps. Modified hydraulic influent gates control system to prevent gate jamming in closed position.

Sedimentation System: Rehabilitated sludge collectors in tank No. 1. Replaced portions of chain, flights, wearing shoes, and sprockets three times in tank No. 3 and twice in tank No. 4. Replaced sprockets and bearings in No. 3 water scum drive.

Each treatment plant makes continuing sanitary surveys of ocean and bay waters and beaches adjacent to its tributary area and outfalls in accordance with self-monitoring programs required by the State Regional Water Quality Control Board. In addition each plant is responsible for checking the condition of storm overflow diversion structures in its drainage district. During the year new monitoring programs for the North Point and Southeast plants were adopted by the Regional Board. In addition a new City Industrial Waste Control Ordinance was adopted January 23, 1971. To meet the new expanded needs, the laboratory at the Southeast plant was enlarged and additional laboratory equipment was purchased for all three plant laboratories.

The foregoing work plus essential process control comprises the major portion of staff and laboratory workload. However, the division does make special studies and investigations to improve operation, furnish data for the Bureau of Engineering, assist other divisions of the bureau and advise other City departments.

Special work included the following:

**COMPLETED:**

Investigation of odor sources and control at the Southeast plant.

Performance evaluation of micro floc tube settlers at North Point plant.

Study of reaction mechanisms relative to use of chlorine and hypochlorite as disinfectants.

Study of sodium silicate for wastewater flocculation.

Plant scale test of high level ferric chloride flocculation of wastewater in cooperation with Bureau of Engineering.

Study of chlorine requirement sources.

Correlation of Jackson turbidity units with Secchi disk readings in bay water.

Evaluation of bay water offshore of Islais Creek fill area for Port Commission.

Correlation of turbidity with various mixtures of bay water and plant effluent.

**CONTINUING:**

Investigation of effectiveness of flocculants, flocculant aids and salt water in wastewater treatment.

Performance comparison at the Southeast plant of two modified sedimentation tanks with two original tanks.

Feasibility study of sludge thickening in sedimentation tanks at Richmond-Sunset plant, in cooperation with Bureau of Engineering.

Special sampling programs in cooperation with Bureau of Engineering in conjunction with Regional Water Quality Control Board compliance schedule work.

### INDUSTRIAL WASTE PROGRAM

The new Industrial Waste Ordinance has several new features which markedly affect the work of the division. These include the collection of various fees from industrial waste dischargers, the authority to require dischargers to perform sampling and analysis on wastes discharged and file reports, and the creation of an Industrial Waste Review Board.

The major work of the Management Assistant to the division General Superintendent employed in February 1971 included the following:

Developing procedures for the collection of fees and deposit of money received by the division which was completed.

Working with the Data Processing and Audit Division of the Controller's office to establish master billing files and design billing and receipt forms for fees collected by the division. The work on master billing files is continuing.

Developing information transmittal procedures with the Water Department to handle industrial waste discharge fees to be collected by that department which was completed.

Cooperating with the Industrial Waste Section in compiling waste discharger lists and identifying Water Department account numbers which is continuing.

Because of personnel turnover, the division had been unable for many years to maintain continuous supervision of the Industrial Waste Section. In anticipation of the new ordinance being developed, the section was reorganized by placing a Senior Chemist in charge and adding two Chemists to the staff effective July 1, 1970.

Since the existing inspection system and records were obsolete, the first task of the reorganized section included the following:

Establishing a new filing system and waste discharger coding based on the Standard Industrial Classification Code of the U.S. Bureau of the Budget, after surveying procedures used by other industrial waste control agencies.

Commencing a new industrial waste survey using new priorities and new industry lists.

Commencing random sampling and analyses of wastes to establish waste characteristics in each industrial classification.

During the year 400 industries in three major categories were surveyed and waste characteristics were determined; a total of 1200 inspections were made; 40 complaints were investigated and 20 violations of the 1953 ordinance were found and corrected. The section also participated in work related to the drafting of the new ordinance.

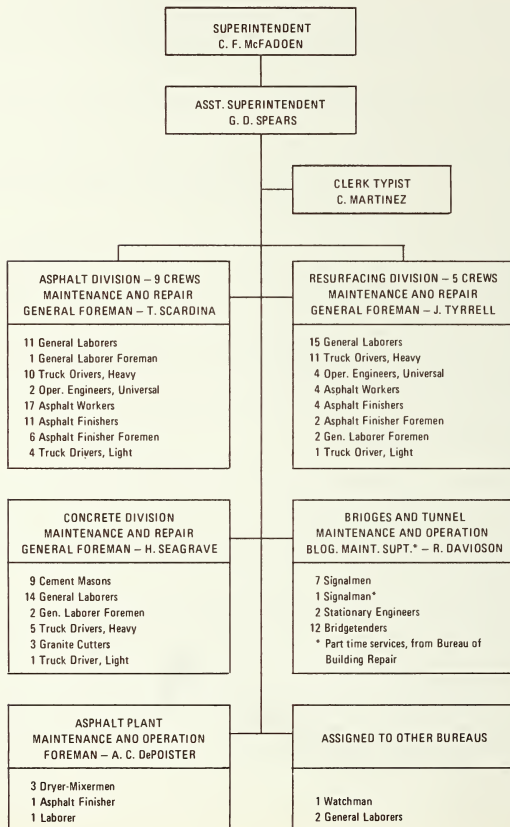
New responsibilities of the section include reviewing and evaluating discharger technical reports, preparing recommended Public Works orders and staff reports for implementation of the ordinance and presenting technical evidence at Directors and Industrial Waste Review Board Hearings. The first public hearing by the Director was held in June 1971.

## ORGANIZATION CHART

## BUREAU OF STREET REPAIR

City and County of San Francisco

JUNE 30, 1971



**BUREAU OF STREET REPAIR****C. F. McFadden, Superintendent****FUNCTIONS**

The Bureau of Street Repair maintains and repairs in excess of 850 miles of accepted City streets including adjacent curbs, gutters, retaining walls, public stairways, certain sidewalk areas, pedestrian underpasses and overpasses, guardrails and fences. It also maintains and operates an asphalt plant, a granite curb yard, a dump, three lift bridges, the Broadway tunnel and a pumping station at Geary and Fillmore Streets.

Work ordered by the Director of Public Works includes traffic channelization, minor street alterations, minor construction and emergency work for the protection of the City and/or the public.

Additional work performed for other departments or bureaus includes the repair of pavement for the Municipal Railway, the repaving of trenches opened by the Bureau of Sewer Repair for the installation or repair of side sewers, the repair of certain state highways within the City and the repair of pavements in school yards and the yards of other City institutions.

The City's charter provides that repair or reconstruction on any one job shall not exceed a cost of \$5000. It also prohibits work on unaccepted streets, except in emergency, and on sidewalks in front of private property. Unaccepted streets are those streets that have not been properly improved and officially accepted for maintenance and repair by the Board of Supervisors.

Activities are further limited by state law (The Collier-Burns Highway Act of 1947 as amended) governing the expenditures of monies from which the bureau is financed.

Maintained road mileage is as follows:

Select System (comprised of Major Arterial Streets, Collector Streets and other roads)	843.91
State Highways (by maintenance agreement)	10.32
<b>TOTAL</b>	<b>854.23</b>

Inasmuch as San Francisco is a combined city and county, its streets and road system are one and the same.

**ORGANIZATION AND PERSONNEL**

No change was made in the Bureau's organization during the year. Changes in personnel were confined to natural "turn-over." An organization chart is included as a part of this report.

Examinations for Street Repair General Foreman, Asphalt Finisher Foreman and General Laborer Foreman were held during the latter part of the fiscal year. As of June 30, 1971, the results of these examinations have not been announced.

Limited tenure appointments continued to be made during the year. The Bureau has a total of 175 employees allowed in the annual salary ordinance and of this total, 24 employees are temporary or limited tenure appointees. It is hoped that additional examinations will be held during the coming year so these jobs can be filled permanently.



### SUPERVISION

The Bureau's supervisory force remained the same as in the previous year and consists of the following: a superintendent, assistant superintendent, three general foremen, asphalt plant foreman and the part time services of a building maintenance superintendent. The foreman of the asphalt plant usually reports directly to the superintendent, along with the building maintenance superintendent who is in charge of bridges, tunnels and underpasses. Each general foreman directly supervises a section of the Bureau's street repair force which is composed of an asphalt repair division, a concrete repair division and a resurfacing and crack sealing division. The assistant superintendent is in charge of the Bureau's safety program in addition to other duties such as overall field supervision, making street and curb surveys in connection with the construction of new buildings, and the condition of street structures and appurtenances.

### EQUIPMENT

Equipment procured during the year consisted of replacements for worn out units and was as follows: six pavement breakers, two dump trucks equipped with crew compartments and 4-6 cubic yard dump bodies and one 6-8 cubic yard, three axle dump truck.

The six new jackhammers are equipped with mufflers in an effort to reduce the noise level inherent to jackhammer operation. The mufflers are the strap on type. Tests were made of several different kinds and although there was a slight reduction in the noise level, it was not significant. Future and pending noise abatement laws will probably force the various manufacturers of this type of equipment to produce more efficient kinds of mufflers and noise suppressors.



New International Model F-1910 Dump Truck



New International Model C.O. 1810 Dump Truck with Crew Compartment

## MAJOR WORK PERFORMED

	UNIT	QUANTITY	TOTAL COST	UNIT COST
Asphalt Resurfacing — Hand Asphalt Paving	Sq. Ft.	291,008	\$ 69,635	.239
(118.4 sq. ft. per ton)	Tons	2,457		28.344
Asphalt Resurfacing — Machine Asphalt Paving	Sq. Ft.	4,201,851	358,852	.0854
(143.7 sq. ft. per ton)	Tons	29,236		12.274
Asphalt Resurfacing — Box Asphalt Paving	Sq. Ft.	638,427	109,691	.172
(109.4 sq. ft. per ton)	Tons	5,833		18.805
Asphalt Patching	Sq. Ft.	494,196	255,864	.5177
(165.1 sq. ft. per ton)	Tons	2,994		
Asphalt Paving (Cut-outs)				
Compressor work	Sq. Ft.	142,759	63,214	.443
Asphalt Paving	Sq. Ft.	256,030	95,524	.373
(86.3 sq. ft. per ton)	Tons	2,967		
Cleanup			60,961	
Compressor Work	Lin. Ft.	23,855	66,954	2.807
Granite Reset	Lin. Ft.	9,711	28,872	2.973
Granite Replaced	Lin. Ft.	7,965	12,407	1.557
Concrete Reset	Lin. Ft.	811	2,051	2.529
Concrete Replaced	Lin. Ft.	10,707	51,538	4.813
Pavement-Asphalt	Sq. Ft.	33,758	27,150	.8043
Pavement-Concrete	Sq. Ft.	3,627	6,090	1.679
Sidewalk	Sq. Ft.	10,571	24,100	2.280
Cleanup			95,968	
Concrete Curb Repair			13,682	
Curb Yard				
Redress Granite	Lin. Ft.	2,616	12,975	4.96
Sort, Move, Etc.			32,113	
Total	Lin. Ft.		45,088	
Crack Sealing				
Sealing	Lin. Ft.	1,373,236	179,703	.131
Cleanup			49,498	
Total	Lin. Ft.		229,201	.167
Concrete Pavement Repaired	Sq. Ft.	1,696	4,405	2.597
Sidewalk Reconstructed	Sq. Ft.	80,057	89,413	1.117
Heater Planing	Lin. Ft.	343,815	78,170	.227
Slide & Debris Cleanup			109,760	
State Highways			4,383	
Work for other Bureaus & Depts.			74,646	

### RUMBLE STRIP INSTALLATION

During the year, at the request of the City Engineer, this Bureau installed gravel "rumble" strips at three locations, 5th Avenue, 6th Avenue and 7th Avenue all north of Lake Street. The above mentioned Avenues all dead end approximately 600 feet north of Lake Street. Since there are many young children living and playing on these streets, the residents requested that some positive means be provided to slow down automobiles that use the streets. Whereas caution signs are either not seen or ignored, the driver, as he goes over these series of rumble strips, receives strong stimuli as the coarse texture alternates with the smooth texture of the pavement. The rough spots not only sound loud, they can be seen and feel slightly bumpy under the tires.



Constructing "Rumble Strips" at Sixth Avenue, North of Lake Street

The actual installation consisted of thirteen 8" x 20' strips on 10 foot centers of 1/2 to 3/4 inch gravel bonded to the pavement with a two-component system consisting of resin and curing agent. A template was laid on the pavement and the thoroughly mixed resin and curing agent poured and broomed uniformly within the template. The 1/2 to 3/4 inch gravel was immediately broadcast into the resin. Curing took about 2 hours, after which excess gravel was swept up and the street opened to traffic. Observations made a few days later showed very little loss of gravel since the resinous cement had bonded well.



Closeup view of "Rumble Strip"

The installations appear to have accomplished their purpose and the comments of the adjacent property owners have been favorable.



Repairing brick pavement in Lombard Street between Hyde and Leavenworth Streets

### MUNICIPAL ASPHALT PLANT

Asphaltic mixtures produced at the Municipal Asphalt Plant during 1970-71 were as follows:

#### COMPOSITION - %

MIX DESIGNATION	TONS	ASPHALT	No. 6	5/16"	5/8"	1 1/4"
Surface	2,726	8 1/2	91 1/2			
School	4,708	7	60	33		
Topeka	37,744	6	45	25	24	
Spreader	1,212	5 1/2	40	25	17 1/2	12
Binder	168	3 1/2	21	28	22 1/2	25
Cold	183	*	35 1/2	27 1/2	30	
<b>TOTAL</b>	<b>46,741</b>					

\* 1% asphalt and 6% Pacific specification 300 fuel oil.

Aggregates were screened into "hot bins" from a combination of Antioch (fine graded) sand, coarse graded sand and three sizes of gravel. Asphalt use was paving grade, 60-70 penetration. Production costs for the 46,741 tons produced during the year were as follows:

Direct Labor	\$ 68,123.55	or	\$1.45 per ton
Indirect Labor	3,442.94	or	.07 per ton
Overhead	23,260.60	or	.50 per ton
Materials	204,572.28	or	4.38 per ton
Gas, Electricity, etc.	14,533.04	or	.32 per ton
<b>TOTAL</b>	<b>\$313,932.41</b>	or	<b>\$6.72 per ton</b>

All maintenance work and worn part replacements were done during slack work days or on Saturdays with the following exceptions:

At about 10:00 A.M. on Monday, November 23, 1970, the storage bin elevator belt broke. An emergency order was given to Sheedy Transportation Company and they supplied a crane to raise the broken belt. The plant crew laced the belt together, made other repairs as necessary and the plant was able to unload aggregate on December 2, 1970. Aggregate stocked in the storage bins was sufficient to permit continuous asphalt production.

A new elevator belt was ordered from the American Rubber Company. It will be installed by plant personnel right after July 1, 1971.

During June 1971, the aggregate storage bins and No. 2 conveyor metalwork were sand-blasted, primed and painted. The work was done by the Bureau of Building Repair, as a contractual service for a cost of \$1197.

The Bureau of Street Repair also operates and maintains an elevated sand storage bin at 2323 Army Street. The bin has a capacity of 90 tons, has a 16 foot diameter and is constructed of 1/4 inch steel plate. The bin loading elevator is a vertical centrifugal discharge, spaced-bucket elevator approximately 46 feet center to center of pulleys. The buckets are 8 inch by 5 inch malleable iron, mounted on a belt 9 inches wide, 5 ply 32 oz. duck covered with a layer of 1/16 inch thick rubber both sides and edges. The bin is elevated so trucks can back under and load beach sand. The sand is used for backfilling sewer trenches and as fill material in curb trenches.

The storage bin and elevator were installed in 1958. During the early part of June 1971, the elevator belt broke. An emergency was declared and the American Rubber Company fabricated a new belt. It was also necessary to purchase new elevator buckets since the old ones were rusted and sealed due to corrosive action of the salt in the beach sand.



Sand storage bin and elevator located at 2323 Army Street

## BRIDGES, TUNNELS AND UNDERPASSES

The City's three bascule type bridges, the Broadway Vehicular Tunnel and the pumping facilities in the Geary Expressway Underpass at Fillmore Street have all been described in detail in previous reports.

A contract was awarded to Abbett Electric Corporation for the mechanical, electrical and structural reconstruction of the Fourth Street Bridge. The bid price was \$286,920.

Bridge openings during the past year and the previous five years were as follows:

YEAR	THIRD STREET	FOURTH STREET	ISLAIS CREEK
1970-71	1185	861	396
1969-70	1296	975	244
1968-69	1726	1447	340
1967-68	2179	2010	628
1966-67	2662	1769	456
1965-66	1907	1365	478

Statistics regarding the Broadway Tunnel ventilation, lighting and traffic are as follows:

## VENTILATION – BLOWER OPERATING TIME

YR. ENDING JUNE 30	NORTH BORE WESTBOUND TRAFFIC				SOUTH BORE EASTBOUND TRAFFIC			
	SLOW		FAST		SLOW		FAST	
	HOURS	%	HOURS	%	HOURS	%	HOURS	%
1971	474.5	5.42	34.1	.39	735.5	8.39	60.1	.68
1970	474.0	5.41	12.2	.14	266.9	3.05	15.2	.17
1969	357.1	4.08	69.0	.79	346.0	3.95	46.7	.53
1968	165.5	1.89	9.4	.10	138.2	1.57	86.4	.98
1967	152.0	1.73	10.1	.11	130.0	1.48	91.4	1.04

The blower operating hours are up considerable over the previous year due to the fact that during construction of Health Center No. 4, the contractor diverted all traffic through one bore of the tunnel, the South bore. Also, it was necessary to shut down the C.O. recording system so the installing contractor could make repairs to the machinery. Consequently, the blower fans were operated manually during the peak traffic hours. In order to be sure the tunnel was free of carbon monoxide the fans were in operation for a longer period of time than normal.

## LIGHTING – LAMPS REPLACED

	OCCASIONS	72T8's	72T12's	TOTAL
Lamps in service		1004	332	1336
Replaced during year	1	267	65	332
Previously Replaced	58	9046	823	9869
Totals (since Dec. 1952)	59	9313	888	10201

## TRAFFIC COUNTS

		EASTBOUND	WESTBOUND
Wednesday	March 12, 1969	14,241	12,291
Thursday	February 9, 1967	13,841	11,841
Tuesday	March 3, 1964	11,589	10,723
Tuesday	December 15, 1959	12,216	10,359
Thursday	July 10, 1958	11,144	9,478
Wednesday	March 16, 1955	10,609	9,795
Wednesday	February 11, 1953	8,668	8,770

The tunnel was put into service December 1952.

The pumping facilities at the Geary Expressway Underpass at Fillmore Street continued to operate satisfactorily during the year with one exception. It was necessary to rebuild the No. 1 pump and add a steady bearing to overcome excessive shaft whip.

Pump operating hours during the year were as follows:

Pump No. 1	
Hours	Percent
456	5.2

Pump No. 2	
Hours	Percent
434	4.95

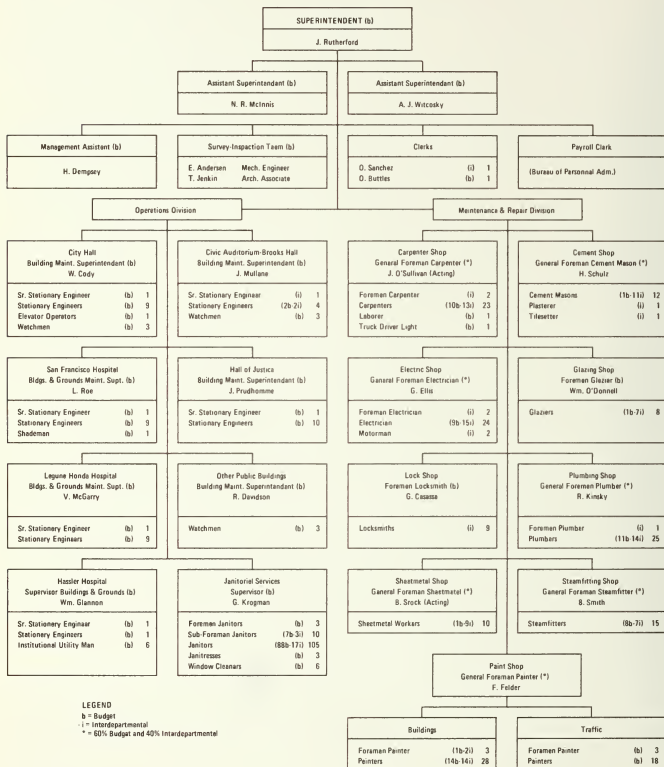




# ORGANIZATIONAL CHART

## BUREAU OF BUILDING REPAIR

June 30, 1971



## BUREAU OF BUILDING REPAIR

### J. Rutherford, Superintendent

With a work force of 407 employees consisting of nearly 50 different classes and an annual expenditure of \$7,232,896.00, this bureau is the largest and most diversified of the maintenance and operation units.

### FUNCTION

The bureau's primary function is to maintain and repair 332 public buildings, as well as provide operational and/or janitorial services for 112 of these buildings. In addition, maintenance and repairs are performed for other departments by means of a budget transfer or interdepartmental work order procedure. A significant portion of this work was performed for the following departments.

1. School Department with over 135 school buildings.
2. Recreation and Park Department with over 300 buildings and structures.
3. War Memorial, de Young Museum, Legion of Honor, Public Utilities, etc.
4. Bureau of Engineering:
  - a) Street traffic painting and maintenance of street signs.
  - b) Maintenance and repair of street structures, sidewalks and traffic control devices.

### ORGANIZATION

As indicated by the organizational chart, the work force is nearly evenly divided between operational and maintenance functions.

The Operation Division consists of 200 budgeted positions which include janitors, window washers, stationary engineers and watchmen who are assigned to various buildings and institutions.

The Repair Division consists of 198 building trade mechanics representing 12 different crafts. 86 of these are permanent budgeted positions. The remaining 112 positions are classified as interdepartmental and are filled on an "as needed" basis depending upon the work load and availability of funds.

The Administrative Division consists of a Superintendent and a staff of 7 which performs the required administrative functions of planning, budgeting, accounting, payroll and personnel. The Engineering and Architectural Team makes frequent inspections of the physical plant in connection with the bureau's preventive maintenance program and is responsible for all contract work. During the year, 43 contracts totaling \$52,273.00 were awarded on a competitive basis, as shown in Figure 4.

### INTERDEPARTMENTAL WORK

A major portion of interdepartmental work was generated by the School Department. During the year, 13,248 requisitions were completed for miscellaneous school repairs which averaged 52 requisitions per work day. Of this total, 1,022 were emergency requisitions requiring immediate response. 35.4% of all requisitions cost \$25.00 or less and 80.7% were completed at a cost of less than \$100.00. The interdepartmental overhead for all work averaged 58.41% as compared with 60.14% for the previous year. The overhead consists of items over which the bureau has little control such as retirement, workmen's compensation, sick leave, vacations, supervisions, etc.



Sheetmetal men repairing gutters  
at Hayward Girls Playground

Repairing a metal sash and window  
at El Dorado School



Casting replacement pieces of cornice  
ornamentation to repair spalled and  
broken sections at the California  
Palace of the Legion of Honor. A  
rubber mold is made of each orna-  
ment and new pieces are cast in  
concrete, artificially aged and  
reinstalled.

## PROBLEMS

The uncontrolled spiral of inflation of labor and material costs coupled with already reduced appropriations because of the tax crisis have resulted in a severe financial squeeze that is destroying the effectiveness of the entire maintenance program. This situation is further aggravated by the virtual cessation of a meaningful capital improvement program to replace worn out and obsolete facilities. This dilemma is compounded by the fact that the size of the physical plant is continually growing as new services proliferate but without funds to maintain their quarters. Examples of this growth would include Model Cities, Methadone Clinics, Detoxification Clinics, Themis Recovery House, Youth Corps. organizations and five new district health offices and mental health clinics. Because of adequate funds not being appropriated, some regular maintenance is necessarily being deferred. However, the day of reckoning cannot be postponed indefinitely and sooner or later leaking roofs and failing plumbing must be repaired. The cost of correcting problems brought about by deferring maintenance too long will come as a shock to the taxpayer.

Great savings in maintenance could be attained if architects and engineers would view their projects from the larger overall point of view as an owner must. Designers can be too preoccupied with esthetics or novel mechanical systems to give enough attention to future maintenance and operational problems. This can result in life-cycle costs far exceeding the owner's expectation. A case in point would be the design of recreation field houses. Despite at least 15 years of experience with severe vandalism, new buildings are still being designed with large expanses of plate glass which are immediately reduced to ruin within a matter of days after acceptance of the building. The bureau is then requested to screen and cover all these areas which destroys the appearance of the building and the city inherits a maintenance headache for the next fifty years.

The current policy of "holding" personnel requisitions to replace positions vacated by promotion, retirement or death in order to "save money" is destructive of morale. A janitor that is forced to take over part of another assignment in addition to his own regular work for an indefinite period and without any reasonable explanation can hardly be criticized if he adopts a negative indifferent attitude. He may well reason, if the City doesn't care, why should he?

## PROGRESS

The new Medical Center Service Building is nearing completion and should be occupied by July, 1971. As soon as the utilities can be cut over to the new plant, the old powerhouse will be demolished to make room for the construction of the new medical center. Unfortunately, the planners did not provide space in the new service building for the maintenance shops or personnel, so the Building Superintendent's office will be a full city-block away from the activities he is expected to supervise.

Mr. Prudhomme and his staff at the Hall of Justice have completed another year of operation without a lost time accident. Their record now stands at 1745 mandays of accident-free operation and he and the staff are to be congratulated on an outstanding achievement.

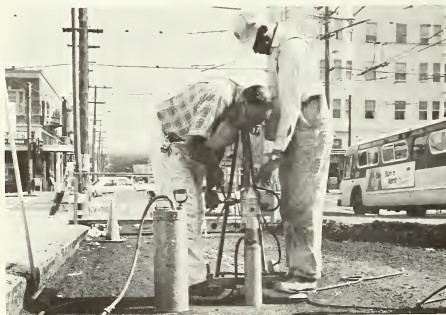
The Assistant Director of Maintenance and Operations has been successful in obtaining some very essential equipment through government surplus at unbelievable savings. As an example, a good calculator was recently purchased for six dollars! Shop tools and some materials were obtained at similar prices.

A unique example of progress was demonstrated this past year by eliminating E.D.P. and returning to the older conventional method of cost control. Although this may seem to be a backward step, in this particular situation and because of our low priority, much E.D.P. information was incorrect and too late to be of value. With a return to manual posting directly off time cards and material orders, it is possible to determine the expenditures and balance of any account at any minute of the day merely by glancing at the Kardex record. In addition, the record gives one a visual picture of the progress on jobs that would be difficult to reproduce by any other means.



Repairs to lock on main cell doors  
at County Jail No. 2

Emergency repairs to water service  
at Clarendon Elementary School



Cement masons drilling core sam-  
ples from street at 9th Avenue and  
Judah

## PUBLIC BUILDINGS UNDER THE JURISDICTION OF THE DEPARTMENT

## OF PUBLIC WORKS FOR MAINTENANCE AND REPAIR

DEPARTMENT	NO. OF BLDGS.	TOTAL SQ. FT.	APPROX. EXP. PER BLDG.	UNIT COST PER SQ. FT.
Fire Department	62	623,000	\$ 149,875	\$ .241
Juvenile Court				
Hidden Valley Ranch	4	42,712	5,590	.131
Log Cabin Ranch	16	32,000	17,442	.545
Youth Guidance Center	17	202,330	58,701	.290
Police Department (Stations)	10 (C)	101,293	28,680	.283
Hall of Justice	1 (C)	580,500	109,979	.189
Public Health				
Emergency Hospitals	5	33,352	8,514	.255
Hassler Hospitals	18 (C)	130,000	74,160	.570
Health Center Bldgs. and Health Centers	7 (C) 2 (R)	179,550 5,900	40,144	.216
Laguna Honda Hospital	25 (C)	650,000	307,780	.474
San Francisco General Hospital	33 (C)	753,000	396,050	.526
V. D. Center	1 (R)	10,000	2,111	.211
Public Library	23 (C) 6 (R)	341,943 9,405	86,570	.246
Public Works				
City Hall (Inc. Pwr. Plant)	2 (C)	526,540	165,134	.314
City Hall Annexes	3	37,190	4,266	.115
450 McAllister Street	1 (C)	56,460	15,453	.274
Maintenance Yard	9 (C)	72,890	28,853	.396
19th Avenue Garage	1	4,400	752	.171
Water Pollution Treat. Plants	35	543,330	119,579	.220
Water Pollution Pumping Div.	19	31,325	9,191	.394
Real Estate				
Civic Aud./Brooks Hall	2	435,400	94,875	.218
Sheriff				
County Jails No. 2 and No. 4	7	138,970	80,663	.580
Social Services				
150 Otis Street	2 (C)	40,900	18,482	.452
585 Bush Street	1 (C)	43,791	8,161	.187
1680 Mission Street	1 (C)	40,000	6,446	.161
S. M. R. C. — Redwood City	1	10,000	3,611	.361
Miscellaneous Departments	19	230,594	32,312	.107
TOTAL	333	5,906,775	\$1,873,374	.304 Avg.

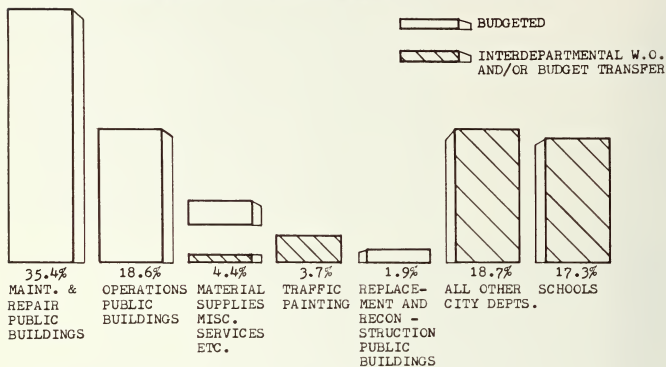
## NOTES:

(R) Indicates buildings that are rented. (Total of 9 buildings with a combined floor space of 25,305 square feet.)

(C) Indicates custodial and/or operational services.



## BUREAU OF BUILDING REPAIR



PROPORTIONAL EXPENDITURES OF ALL FUNDS

FIGURE 1

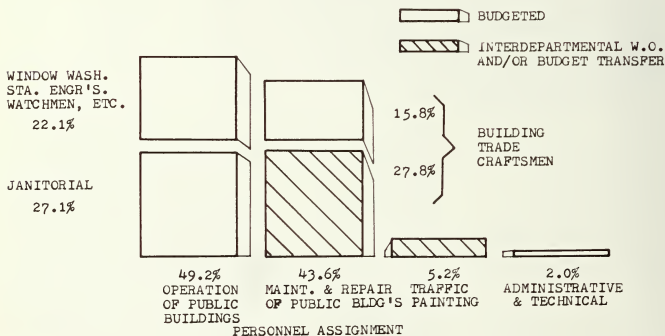
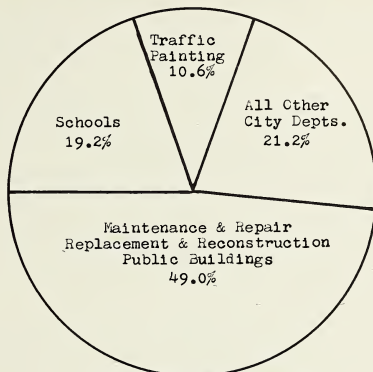


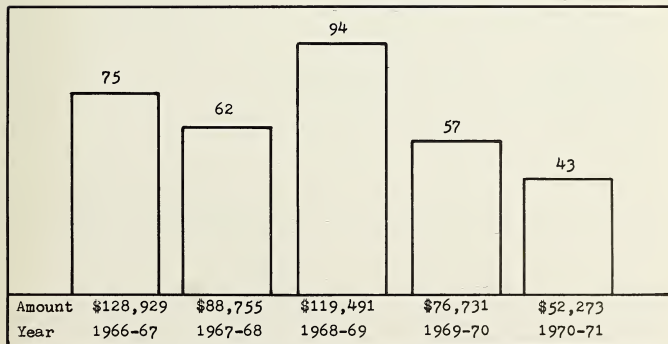
FIGURE 2

# BUREAU OF BUILDING REPAIR



ASSIGNMENT OF BUILDING  
TRADES PERSONNEL  
(198 Employees)

**FIGURE 3**



INFORMAL CONTRACTS AWARDED 1966-67 THRU 1970-71

**FIGURE 4**

**ORGANIZATION CHART**  
**BUREAU OF STREET CLEANING AND PLANTING**  
**STREET CLEANING DIVISION**

June 30, 1971



## BUREAU OF STREET CLEANING & PLANTING

Bernard M. Crotty, Superintendent

Major responsibilities of the Bureau of Street Cleaning and Planting are: cleaning 854 miles of improved streets and 55 miles of traffic islands and the maintenance of over 250 acres of landscaping and 15,000 street trees.

Subsidiary functions assigned to the Bureau include cleaning, landscape maintenance and physical maintenance of 19 neighborhood off-street parking lots and 2 garages; regular cleaning of the tile surface of the Broadway and Stockton Street vehicular and pedestrian tunnels; cleaning and inspection of 10 vehicular and pedestrian underpasses; and cleaning 215 public stairways. The Bureau is also responsible for yard cleaning at the main corporation yard at Army Street. Our garage and service yard at 2350 19th Avenue and Planting Division tool room at Sunset and Sloat Boulevards are also Bureau responsibilities. From time to time other City agencies and departments found it expedient to engage our services such as cleaning City College roads and the Hall of Justice parking lot. The Bureau is also responsible for weeding and rubbish removal on many unimproved street areas. For these functions the Bureau had 351 employees in two divisions and 80 units of motorized equipment which travelled 533,284 miles.

### RADIO

The Department of Public Works radio K.M.E.327 which is under supervision of this Bureau logged 20,375 calls through 51 mobile units. This service continues to be one of the most valuable tools in the Department.

### COMPLAINTS

Requests for service and complaints totaled 2,526. With few exceptions these calls were answered within an hour by a crew or supervisor dispatched by radio.

Street Cleaning in San Francisco is divided into four major functions:

#### 1. BLOCKMEN

There are 112 blockmen cleaning the downtown, outlying business areas and older residential neighborhoods. Assignments vary from short routes of 3/4 mile to larger routes in the outlying shopping districts comprising 3 miles or more. The shorter downtown routes are cleaned at least twice daily and parts of the outlying routes cleaned only semi-weekly. The business streets on these remote routes are, of course, cleaned each working day.

#### 2. MECHANICAL SWEEPERS

This mode of cleaning is with one exception the most efficient way of cleaning streets. The exception is when cars are parked at the curb and the machine cannot work in the gutter.

The following will give some idea of the problem in San Francisco.

Statistically, San Francisco has one of the most critical automobile problems in the world. Registration figures show that we have the highest vehicle registration of any city of comparable size. The following will give some idea of the enormity of our difficulties in the area of public service because of the automobile: Auto registration was 372,000; population, 750,500; land area, 45.45 square miles; paved streets, 830 miles. This results in 445 vehicles per lineal mile of street and 8185 vehicles per square mile. It is a wonder, and somewhat a matter of pride, that our streets are cleaned as well as they are.

Our biggest problem from the standpoint of cleaning operations is one of parked automobiles in our older neighborhoods, where, for instance, we have apartment houses with as many as 50 to 100 units per building, with no provision for parking.

We conducted a survey with the aid of the traffic engineers several years ago and found that there were many streets in some areas where cars were parked bumper-to-bumper 24 hours a day. In these districts there is an almost total absence of parking facilities, either public or private, except the street.

Alternate side parking would be out of the question when it is compared with inconvenience to residents in these densely-populated multiple-dwelling areas.

#### MECHANICAL SWEEPERS RECORD FOR YEAR:

##### 1. Performance Record

Miles Swept  
Refuse Removed  
Hours Worked  
In Service  
Downtime

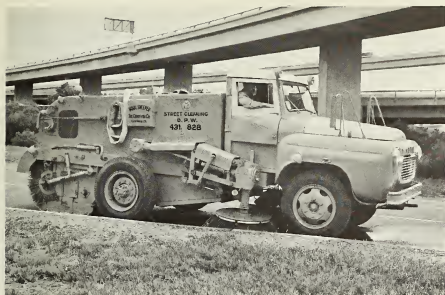
2635 Loads

(See Graph on Following Page)

46012  
7905 Cubic Yards  
14730  
51.58% Of Time  
48.42% Of Time



Blockman using hand scoop & broom. This operation is usually confined to downtown & outlying commercial areas. Routes vary from 1 mile to 4 miles in length.



**MECHANICAL SWEEPER:** Note gutter broom below driver and main pickup broom at rear.

**GANG SWEEPING:** Lumpers removing piles made by hand sweeper



**MOTOR FLUSHER:** Cleaning and pushing refuse to gutter for later pickup by Blockman.

There were 23 main or pick-up broom renewals for an average of 2000 miles broom life. There were 59 right gutter broom renewals or 780 mile average life and 16 left gutter broom renewals for an average of 2,875 miles per broom.

Out of 13 available mechanical sweepers, we were only able to keep an average of 7.22 sweepers on the street.

### 3. MOTOR FLUSHERS

(See Graph on Following Page)

Miles Flushed	60330
Tanks of Water Used (2500 Gal. Tanks)	24302
Hours Worked	11096

The 10 Motor Flushers were in service 54.39% of the available time. They were out of service 45.61% of the time for all reasons; breakdown, driver shortage, etc. This works out to an average of 5.44 flushers in service year round.

### 4. SWEEPING GANGS

Our sweeping gangs, with a total of 14,224 hours for the year (254 days x8x7 Gangs) swept 122,966 blocks, averaging 17,567 blocks per year for each of the seven gangs and had an overall average of cleaning their routes 2.46 times per month during the 12 months.

It is to be noted that gangs work principally in the residential and industrial districts.

In judging the work, the reader should note that all mileage figures should be qualified with a 5-10% deadheading factor. Time not actually working but spent going to and from the job location.

### COMMENT

While we have made every effort to maintain our traditionally high standards of street cleaning service, in recent years severe budget cuts have virtually eliminated our potential to achieve this goal.

The financial condition of the Bureau of Street Cleaning is presently such that we have had to reduce service in most areas of San Francisco and, in some cases, reduce our frequency of cleaning from once weekly to once monthly, or less, depending on the availability of men and equipment.

There are 6 ways to reverse this diminution of San Francisco's reputation as a "Clean City":

1. Restore funds for personnel. This will bring our manpower to a level of 2 years ago.
2. Expedite processing of requisitions to replace loss of personnel through attrition.
3. Require Civil Service Commission to hold examinations to fill vacancies in supervisory ranks.
4. Restore funds for weekend and holiday cleanup crews.
5. Provide appropriations for a realistic equipment replacement program.
6. Provide adequate funds for equipment repair.



**\* 46012 MILES OF CITY STREETS**

**⊗ 60330 MILES OF CITY STREETS**

EQUIVALENT TO:



ONE YEAR

J F M A  
M J J A  
S O N D

EIGHT MONTHS

J F M A  
M J J A

⊠ A SIX DAYS OF  
24-HR. NON-STOP OPERATION

EQUIVALENT TO:



ONE YEAR

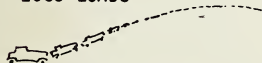
J F M A  
M J J A  
S O N D

THREE MONTHS

J F M

⊠ A SEVEN DAYS OF  
24-HR. NON-STOP OPERATION

2635 LOADS



1318 6-CU YD TRUCKS  
BUMPER-TO-BUMPER

24302 TANKS OF WATER

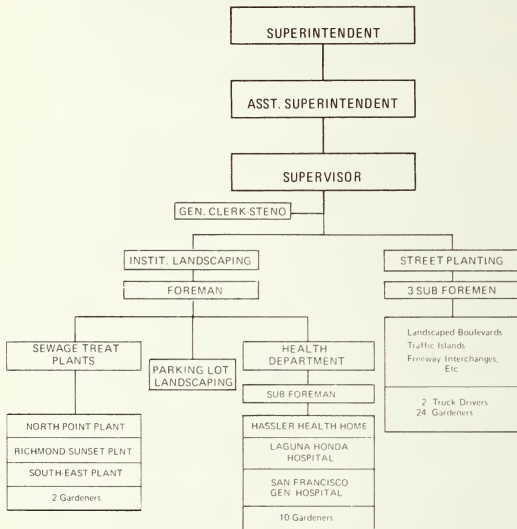


510 MILES OF 30 GAL. HOUSEHOLD  
HOT WATER HEATERS STANDING  
SIDE BY SIDE

- \* DEDUCT APPROXIMATE 10% FOR DEAD-HEADING
- ⊗ DEDUCT APPROXIMATE 5% FOR DEAD-HEADING
- ⊠ DIFFERENCE IN TIME DUE TO SLOWER OPERATION OF MOTOR SWEEPERS

**ORGANIZATION CHART**  
**BUREAU OF STREET CLEANING AND PLANTING**  
**PLANTING DIVISION**

June 30, 1971



## BUREAU OF STREET CLEANING & PLANTING

### Landscaping & Street Planting Division

The Street Planting Division maintains 15,750 street trees and 165 acres of landscaping. This is an increase of 2,200 newly planted trees and 5 acres of landscaping throughout the City over the previous year.

### NEIGHBORHOOD PARKING FACILITIES

The landscaping of 21 such facilities are now being maintained by the Planting Division. Plantings improve the typically bare look of the parking lots and also serves the purpose of muffling objectionable sounds from the neighbors.

Three new parking lots, one at Ulloa and Claremont Streets, another at Palou and 3rd Streets and the Central Police Station were landscaped by the Division under a Work Order.

### HEALTH DEPARTMENT PROPERTIES

The Division is responsible for the maintenance of the acres of landscaped areas on the properties of 3 of the City's hospitals, namely, Laguna Honda, San Francisco General and Hassler Health Home.

7 Neighborhood Health Centers with varying degrees of landscaping are also maintained. The most recently completed are the Chinatown-North Beach Health Center No. 4 constructed over the east end of the Broadway Tunnel and the Rehabilitation Center at Otis and Mission Streets.



Damages by vehicles — A problem that is on the increase

## DEVELOPMENT

Members of the Division work closely with the staff of the Redevelopment Agency and with their landscape consultants in the preparation and selection of street trees and landscaping for the Western Addition and for the South of Market area.

Several hundred trees were planted during the year by the Division under Work Orders from the Agency. The trees were planted at a considerable savings to the City.

## CITIZEN'S PARTICIPATION

Many thousands of street trees have been planted since the Division conducted San Francisco's first Plant A Tree Week twelve years ago. The program continues at a busy pace with more and more people inquiring about the program and eventually planting trees. Many hours are devoted to this program by members of our staff.

This year the Coca Cola Bottling Company conducted the Annual Slogan Contest with excellent citywide participation. Coca Cola also had 2,000 badges printed carrying the winning slogan "Trees Make Good Neighbors." Coca Cola has indicated that they will help to promote our program in the future.

Many new species have been planted out for trial purposes over the last several years resulting in more and more trees being added to our recommended tree list.



Neighborhood Project — Street Tree Planting

## NEW CITY PROJECTS

Additional street beautification projects have been completed and turned over to the Division for maintenance.

Some 2,000 street trees and 5 acres of landscaping have been added to our already overtaxed responsibilities.

Some of the new projects include trees in the Western Addition, Third Street, BART area, Otis and Mission, etc., as well as landscaped traffic islands on Division Street, Eighth Street, slopes in Bernal Cut, etc. Large Eucalyptus memorial trees on Laguna at Bush Street have also been accepted by the Department for maintenance.

New plantings along Mission Street, Taylor Street, Church Street, Pine Street, Castro Street and FACE project, will soon be added to our work schedule.

## NEW EQUIPMENT

A personnel cab stake body truck has recently been put into service. It is an extremely useful truck for hauling small crews to maintain landscaped areas and for pruning street trees.

Two 3/4 ton pickup trucks have been added to our small fleet replacing two rental pickup trucks. Funds for these three trucks were provided from Urban Beautification money.

One 2 ton dump truck, also acquired through these funds, is most useful for hauling soil and cleanup material.

Members of the Division are frequently called on to perform duties outside of their assigned work such as cutting growth from trees that obscure stop signs or signals and growth partially obstructing the sidewalk which consumes many man hours per year.

We work closely with the Sewer Department, Street Repair and Building Repair in clearing growth away to facilitate the particular job.

## EDUCATION

For several years a member of the Planting Division has attended the Conventions of the International Shade Tree Conference. This year due to the efforts of several local members of the Western Chapter Annual Meeting was conducted in June at the Del Webb TowneHouse in San Francisco.

Some 200 visitors to our City enjoyed their four-day stay, participating in the educational as well as the social events of the Convention.

## CONTRACT TREE WORK

Each year a number of large trees are thinned out and generally cleaned up and made safe by tree contracting firms. Funds are provided annually in the budget for tree pruning and removal of hazardous trees on City property throughout the City.

A major concern of the supervisory staff of the Division is the ever increasing work load and the very limited funds provided in the budget for maintenance.



International Shade Tree Conference — Western Chapter Floral Plaque in Golden Gate Park



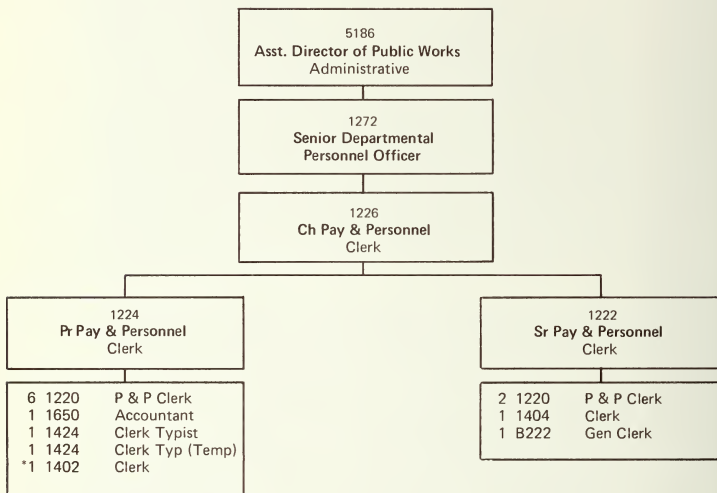
17th Street & Ord triangular traffic island — Landscaped after removal of weeds and debris





## ORGANIZATION CHART

## BUREAU OF PERSONNEL ADMINISTRATION



*\*Position in General Office budget;  
responsibility for assignment only*

## BUREAU OF PERSONNEL ADMINISTRATION

Albert C. Ambrose, Senior Departmental Personnel Officer

The Bureau of Personnel Administration is the central personnel agency for the Department of Public Works and a service bureau to all other operating and service bureaus of the department. The Supervisor of the Bureau of Personnel Administration advises the Director, the Assistant Directors, the bureau heads, line supervisors, and other department employees on matters dealing with personnel, be they classification, salary, discipline, assignment, transfer, time reporting, employee evaluation, Civil Service rules and regulations, Board of Supervisors ordinances and resolutions, the City Charter, the policies of the Mayor's and Chief Administrative Officer's offices, and other personnel transactions. The Bureau Chief also acts as liaison officer between the department and the Civil Service Commission, Controller's office and Mayor's office in matters of personnel administration. The staff of the Bureau of Personnel Administration is directly involved in the preparation of all departmental timerolls and the processing of all personal transactions, including Civil Service employee sign-up and assignment, Non-Civil Service and Limited Tenure recruiting, sign-up and assignment, the keeping of sick leave, vacation, overtime earned, personal and educational leave records, the processing of disciplinary cases, the requisitioning for permanent and temporary employments, some phases of payroll distribution, and all other personnel transactions.

The operations of the Bureau of Personnel Administration in fiscal year 1970-71 included the following: The bureau prepared and processed a total of 1750 timerolls involving an expenditure of approximately \$21,687,038.00. Included in this payroll expenditure was a substantial amount for temporary employees, plus supplemental disability payments. There was a total of 233 requisitions for permanent Civil Service employees to replace vacancies due to deaths, resignations, transfers, retirements, etc. Additionally, there were 909 requisitions for temporary Civil Service employments due to vacation, sick leave, personal leave, reclassifications, replacements, etc. However, because of difficulty in recruiting Civil Service employments, it was necessary to employ 791 Non-Civil Service employees for these authorized positions. The bureau also processed a total of 97 accident reports.

Bureau headquarters are at 253-60 City Hall, where the Bureau Chief and the bulk of his staff are located. A listing of the bureau's personnel is as follows:

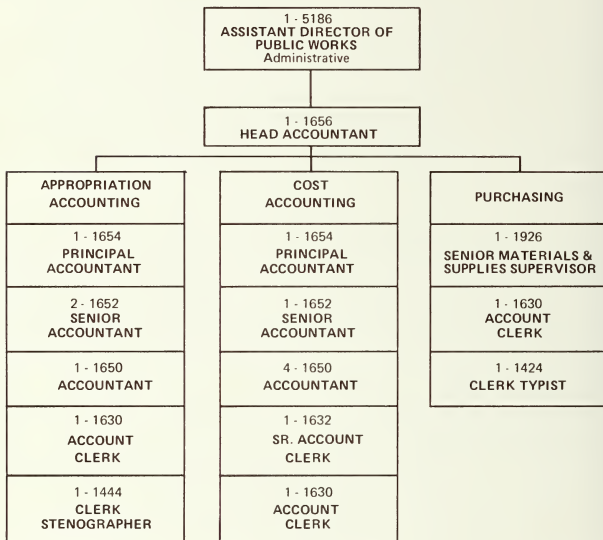
1	1272	Sr. Departmental Personnel Officer
1	1226	Chief Payroll and Personnel Clerk
1	1224	Prin. Payroll and Personnel Clerk
1	1222	Sr. Payroll and Personnel Clerk
8	1220	Payroll and Personnel Clerks
1	1650	Accountant
1	1424	Clerk Typist
1	1424	Clerk Typist (temporary)
1	1404	Clerk
1	B222	General Clerk
1	1402	Jr. Clerk (see Organization Chart)

## DEPARTMENT OF PUBLIC WORKS

## BUREAU OF ACCOUNTS

## ORGANIZATION CHART

June 30, 1971



TOTAL PERSONNEL 18

## BUREAU OF ACCOUNTS

L. P. Fong, Head Accountant

### FUNCTIONS AND ORGANIZATION

The operating functions of the Bureau embrace control of purchase order requisitions, sub-storeroom and inventories, automotive expenditures; work order job costs and invoicing; side sewer job deposits and refund accounts; Federal, State and other trust funds, State gasoline tax subventions and bond fund accounts; capital improvement accounts for the General Fund, and Recreation and Park Department Fund; the cash revolving fund; and budget preparation and controlling accounts.

This Bureau is organized as three divisions under the Head Accountant. They are Appropriation Accounting, Cost Accounting, and Purchasing. The Bureau maintains an office at 2323 Army Street to serve the Maintenance Yard bureaus and an office at 450 McAllister Street, Room 502, to serve the City Hall bureaus.

### APPROPRIATION ACCOUNTING

This Division maintains accounts showing allowances, reserves, allotments, expenditures, encumbrances, and balances, for all funds under the control of this Department. These accounts form the basis of controlling all transactions to assure that funds are expended for the purpose for which they were appropriated.

In addition to maintaining all of the operating accounts, this Division handles the fiscal processing for formal contracts covering street improvements, sewers, sewage treatment plants, schools, hospitals, firehouses, recreation and park improvements, and numerous capital projects for other City Departments.

The preparation and consolidation of the annual budget is also a responsibility of this Division.

### COST ACCOUNTING

This Division maintains accounts showing allowances, expenditures by type, encumbrances, and balances for all work orders received by this Department.

In addition, job costs are maintained for many aspects of the Department's operations such as cost of traffic painting, cost per mile of highway maintenance, cost of side sewer installations and cost of asphalt production. This Division compiles costs to repair damage to City property under the jurisdiction of this Department, and forwards a bill to the responsible party. These costs amounted to \$84,524.20 for fiscal year 1970-71 and embraced 276 cases covering damages to automotive equipment, street structures, bridges, street signs, traffic signs, street plantings, traffic signals, traffic devices, and damages to public buildings.

## PURCHASING

This Division is responsible for the supplying of equipment, materials, and supplies for the varied activities of this Department, the sub-storeroom and the material yard. During fiscal year 1970-71 this Division processed 5,838 requisitions for the purchase orders and/or revolving fund orders in the total amount of approximately \$2,056,949.93 involving 29,833 items. In addition, 6,152 delivery orders involving 21,468 items, 7,358 storeroom tags involving the delivery of 25,019 items, and 76 requisitions on the storekeeper involving 1,381 items were issued.

## OPERATING BUDGET OF BUREAU

PURPOSE	ALLOWANCES		EXPENDITURES	
	1969-70	1970-71	1969-70	1970-71
Permanent Salaries	\$113,773	\$119,885	\$ 99,718	\$ 96,699
Overtime	475	475	459	475
Holiday Pay	663	720	479	632
Contractual Services	2,200	2,644	2,200	2,644
Materials and Supplies	1,500	1,500	1,490	1,473
Equipment	0	345	0	253
Fixed Charges	0	7,200	0	0
Services of Other Departments	90,413	70,847	62,397	70,845
	<u>\$209,024</u>	<u>\$203,616</u>	<u>\$166,743</u>	<u>\$173,021</u>

## WORK ORDERS TO DEPARTMENT

Fiscal Year 1970-1971

BUREAU	NUMBER OF COST ACCOUNTS	TOTAL ALLOWANCE
Architecture	219	\$ 1,084,035
Building Inspection	16	94,790
Building Repair	492	2,720,906
Engineering	504	4,767,930
General Office (Contracts)	97	44,028,568
<b>TOTAL</b>	<u>1,328</u>	<u>\$52,696,229</u>

## DEPARTMENT BUDGET

<u>Bureau</u>	<u>Allowances</u>		<u>Expenditures</u>	
	<u>1969-70</u>	<u>1970-71</u>	<u>1969-70</u>	<u>1970-71</u>
<u>General Fund</u>				
Accounts	\$ 209,024	\$ 203,616	\$ 166,741	\$ 173,021
Architecture	140,177	144,147	137,388	142,863
Building Inspection	1,923,043	1,931,413	1,704,520	1,805,835
Building Repair	3,992,185	4,263,401	3,846,366	4,096,274
Traffic Painting	318,871	336,512	304,233	317,625
Central Permit	98,681	105,732	96,025	100,834
Engineering	1,039,316	1,200,084	991,808	1,123,499
General Office	628,375	662,743	636,500	641,823
Personnel Administration	92,504	100,904	90,596	96,780
Water Pollution Control				
Waste Water Pumping Stations	257,715	321,203	247,849	303,660
Treatment Division	1,964,574	2,668,655	1,929,044	2,535,627
Sewer Repair	1,771,428	1,817,355	1,665,744	1,802,515
Street Cleaning	3,822,627	3,948,554	3,676,746	3,686,448
Capital Improvements	566,200	1,590,069	99,669	65,034
<u>Special Gas Tax Street Improvement Fund</u>				
General Maintenance	7,100	617,100	4,423	4,210
677 Construction	2,097,200	2,085,000	104,388	101,967
674 1.04 Cent Funds	2,488,450	4,739,100	13,855	68,389
<u>Road Fund</u>				
651 Street Repair	3,086,500	3,302,520	2,965,713	3,180,799
642 Select System Construction	732,600	748,600	0	296
643 Traffic Engineering	1,252,145	1,425,842	1,217,791	1,364,671
644 General Maintenance	689,596	1,002,937	625,213	518,741
645 Construction	1,405,504	1,627,180	78,489	95,601
646 Street Planting	422,174	459,675	406,328	441,860
647 1.04 Cent Matching Funds	0	0	0	0
Total	\$29,005,989	\$35,302,342	\$21,009,429	\$22,668,372

Expenditures for capital improvements may not necessarily match allowances for any given year, since allowances may be forwarded from year to year until the project is completed.





# Appendix I

## BUREAU OF ENGINEERING – CURRENT CONTRACT DATA SUMMARY

Showing All Contract Work Awarded Or Underway

July 1, 1970 – June 30, 1971

Table	Type of Construction	No.	Contracts Awarded	Amount Expended Fiscal Year 1970-71
			Aggregate Value	
A	MAJOR THOROUGHFARES			
	A-1 Street Construction	5	\$ 3,848,115.10	\$ 2,796,957.77
	A-2 Channelization & Traffic Signals	3	213,396.95	160,549.95
B	SECONDARY ROADS			
	B-1 Reconstruction	9	464,716.33	814,353.34
	B-2 Resurfacing	1	133,191.40	250,256.67
C	STREET IMPROVEMENT			
	C-1 Assessment Proceedings	7	420,465.18	308,078.39
	C-2 Private Development	2	10,800.00	15,900.00
D	ENVIRONMENTAL WASTE CONTROL			
	D-1 Pipe Sewers	10	1,158,481.50	1,158,211.66
	D-2 Monolithic Sewers	3	1,180,496.00	354,031.85
	D-3 Treatment Plants	9	576,380.06	2,919,820.80
	D-4 Pump Stations	3	100,017.85	110,015.85
E	STREET BEAUTIFICATION	29	2,002,063.32	2,237,702.75
F	RECREATION & PARK	19	838,433.56	1,396,492.37
G	MISCELLANEOUS			
	G-1 Public Bldgs. & Structures	6	414,402.18	161,247.04
	G-2 Parking Facilities	2	100,714.26	100,714.26
	G-3 Slides	5	185,233.04	140,233.04
	G-4 Auxiliary Water S.S.	0	—	—
	TOTALS	113	\$11,646,906.73	\$12,924,565.74
H	AGREEMENTS & SERVICE ORDERS	62	\$ 2,143,662.38	\$ 1,856,753.03

# A-1 MAJOR THOROUGHFARES

Description & Contract	Awarded	Completion Date or %	Contract Amount	Amount Expended
Army St. Circle Contract No. 1 Rechannelization Lowrie Paving Co.	2-28-68	10-30-70	\$2,182,038.30	\$427,668.30
Pine St. — Gough St. to Presidio Ave. Sidewalk Narrowing Mitchell Plumbing Co.	4-1-70	2-4-71	935,956.37	764,956.37
Army St. Circle Contract 2 Rechannelization Hensel Phelps Const. Co.	3-25-70	95%	1,189,000.00	913,860.00
Mission St. — 16th St. to 24th St. BART Stations Street Reconstruction Flora Crane Service	6-19-70	85%	592,006.00	452,880.00
Redevelopment Area D-1 Contract No. 1 Construction New Street Mitchell Plumbing Co.	11-20-70	3-18-71	22,043.10	22,043.10
Masonic Ave — Geary to Page St. Sidewalk Narrowing Lowrie Paving Co., Inc.	3-5-71	58%	278,788.00	145,620.00
Webster St. — Grove to Golden Gate Street Widening Lowrie Paving Co., Inc.	3-10-71	26%	216,704.00	56,430.00
Army St. Circle Contract No. 3 Rechannelization Engstrum & Nourie	4-14-71	0.5%	2,850,610.00	13,500.00
Monterey Blvd — Ridgewood to Circular Sidewalk Narrowing Lowrie Paving Co., Inc.	5-19-71	0	479,970.00	0
Total Awarded and Expended During Fiscal Year			\$3,848,115.10	\$2,796,957.77

# A-2 TRAFFIC SIGNALS & CHANNELIZATION

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Various Intersections Contract No. 26 Traffic Signals Emsco Electric Co.	6-27-69	8-27-70	\$ 81,646.00	\$ 18,646.00
Various Intersection Contract 27A Traffic Signals & Channelization R. Flatland	2-11-70	9-10-70	9,966.00	7,176.00
Various Intersections Contract 27C Traffic Signals & Channelization R. Flatland	6-10-70	2-16-71	64,575.00	64,575.00
Lake Merced Blvd at Brotherhood Way Rechannelization O.C. Jones & Son	9-23-70	2-18-71	57,912.95	57,912.95
Sansome St. at Chestnut and Embarcadero Traffic Signals & Channelization R. Flatland	11-18-70	40%	33,792.00	12,240.00

<b>Description &amp; Contractor</b>	<b>Awarded</b>	<b>Completion Date or %</b>	<b>Contract Amount</b>	<b>Amount Expended</b>
Various Locations Contract No. 28 Traffic Signals & Channelization R. Flatland	6-25-71	0	121,692.00	0
Total Awarded and Expended During Fiscal Year			\$213,396.95	\$160,549.95

#### **B-1 STREETS – PUBLIC CONTRACT CITY PAY**

<b>Description &amp; Contractor</b>	<b>Awarded</b>	<b>Completion Date or %</b>	<b>Contract Amount</b>	<b>Amount Expended</b>
Redevelopment Area E-1 Contract J Clay St. Widening Pacific Pavement Co.	4-24-70	10-15-70	\$151,367.30	\$119,597.30
Broadway – Steiner to Fillmore Sts. Pavement & Sewer Reconstruction Annuzzi Concrete Service	5-13-70	9-9-70	52,358.01	52,358.01
California St. – Mason to Kearny Sts. Pavement & Sewer Reconstruction McGuire & Hester	6-12-70	12-30-70	398,562.20	398,562.20
Palo Alto – Clarendon to Dellbrook Street Reconstruction Lowrie Paving Co., Inc.	7-31-70	12-13-70	23,277.50	23,277.50
Gough St. – Broadway to Pacific Pavement & Sewer Reconstruction Annuzzi Concrete Service	9-2-70	11-6-70	26,085.70	26,085.70
Clay St. – Jones to Powell Pavement Reconstruction Annuzzi Concrete Service	12-2-70	4-15-71	86,944.11	86,944.11
Broadway Tunnel – Mason to Powell St. Pavement Reconstruction Flora Crane Service	11-20-70	3-5-71	42,614.60	42,614.60
Vallejo St. – Leavenworth to Jones Pavement Reconstruction Lowrie Paving Co., Inc.	2-26-71	5-19-71	33,436.82	33,436.82
Van Ness Ave. – Grove to Hayes St. Pavement Reconstruction Annuzzi Concrete Service	3-24-71	6-4-71	31,477.10	31,477.10
Divisadero St at Filbert St. Pavement Reconstruction Annuzzi Concrete Service	6-16-71	0	6,312.50	0
Sacramento St. – Hyde to Jones Pavement Reconstruction & Sewer Annuzzi Concrete Service	6-16-71	0	99,709.50	0
Harrison St. – 14th St. South Pavement Reconstruction O.C. Jones & Son	6-16-71	0	114,858.50	0
Total Awarded and Expended During Fiscal Year			\$464,716.33	\$814,353.34

## B-2 STREET RESURFACING

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Stockton St. & Others Street Resurfacing Lowrie Paving Co., Inc.	3-25-70	7-15-70	\$ 37,875.10	\$ 3,855.10
15th Ave. & Other Streets Resurfacing Lowrie Paving Co., Inc.	4-8-70	9-23-70	128,766.47	60,636.47
Bush St. Street Resurfacing Lowrie Paving Co., Inc.	6-17-70	8-31-70	52,573.70	52,573.70
San Bruno Ave & Others Street Resurfacing Lowrie Paving Co., Inc.	9-23-70	3-4-71	133,191.40	133,191.40
Total Awarded and Expended During Fiscal Year			\$352,406.67	\$250,256.67

## C-1 STREET ASSESSMENT PROCEEDINGS

Street or Subdivision and Contractor	Improvement	Awarded	Completed	Contract Amount
Crestmont Drive Extension Joseph Kaplan	S-C-P	7-9-69	8-28-70	\$184,385.30 (154,800.30)
23rd St. Indiana to Iowa Pacific Pavements	S-C-P	2-18-70	8-4-70	27,907.90 (13,419.21)
Bancroft St. — Jennings & 260's Pacific Pavements	G-S-C-P	6-24-70	10-7-70	16,976.01 (125.00)
Tompkins Ave. — Nevada to Prentiss Lowrie Pav. Co.		9-18-70	1-25-71	9,281.82 (6,337.10)
Pennsylvania Ave. — 22nd St to 23rd St. Pacific Pavements		8-7-70	3-9-71	131,103.36 (25,233.32)
Alder St. — Ankeny St. to Harkness Flora Crane Co.		3-10-71	67%	56,800.00 (35,178.54)
Peralta Ave. — S. Cortland to Tompkins McGuire & Hester		3-26-71	14%	121,600.00 (89,768.39)
17th St. — Mississippi To Pennsylvania McGuire & Hester		4-16-71	95%	11,200.00 (3,311.18)
Bancroft Ave. — Mendell St. to 3rd St. O.C. Jones		5-21-71	57%	46,280.00
Hawes St. — Egbert Ave. to Fitzgerald Ave. O.C. Jones		6-2-71	32%	44,200.00 (39,062.50)
Total Awarded During Fiscal Year				\$420,465.18
Total Value Work Done During Fiscal Year				\$308,078.39

## C-2 STREETS – PRIVATE CONTRACTS

Street or Subdivision and Contractor	Improvement	Awarded	Completed	Contract Amount
Nibbi Court – Blanken Ave. to Gillette Nibbi Bros.	S-C-P	10-26-66	95%	\$12,000.00
Mt. Sutro Woods – Subdivision No. 2 Sutro Develop.	S	5-12-67	98%	4,000.00
Mt. Sutro Drive Sutro Develop.	S	3-13-68	98%	5,800.00
San Jose Ave. Near Ridge Lane Mitchell Plumbing	S	9-2-70	2-22-71	3,400.00
Twin Peaks Blvd Sewer Mitchell Plumbing	S	10-21-70	1-4-71	7,400.00
Total Awarded During Fiscal Year				\$10,800.00
Total Value of Work Done During Fiscal Year				\$15,900.00

## D-1 SEWER – PIPE VITRIFIED CLAY & CONCRETE

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
S. F. Zoological Gardens Sewer & Drainage Facilities Bepco Inc.	12-3-69	8-8-70	\$ 221,804.75	\$ 31,904.75
Lyndhurst Drive – 19th Ave. to Junipero Serra Auxiliary Sewer Underground Construction Co.	12-3-69	8-7-70	196,705.00	28,045.00
17th St. – Uranus to Douglass St. Sewer Reconstruction William R. Cole	4-8-70	10-5-70	151,053.10	115,773.10
26th St. – Castro St. to Sanchez St. Sewer Reconstruction Manuel G. Rodrigues	5-13-70	7-31-70	88,452.60	88,452.60
Joost Ave & Diamond St. – Brompton to Bosworth Sewer Enlargement Jardin & Jardin	7-1-70	9-17-70	26,517.30	26,517.30
Lake Merced Blvd. at Vidal Drainage Facility Enlargement Robert C. Spitz	8-5-70	12-29-70	9,144.65	9,144.65
Hyde St. – Clay St. to Pacific Sewer Reconstruction C. Harper Construction Co.	7-10-70	1-7-71	155,331.01	155,331.01
Ocean Ave – Cayuga to San Jose Sewer Enlargement Glanville Construction Co.	8-19-70	11-19-70	136,274.70	136,274.70
43rd Ave Auxiliary Sewer Section A Auxiliary Sewer Homer Olson & Flora Crane	9-23-70	99%	399,635.00	358,020.00
Ellis St. – Broderick to Divisadero Reconstruction Jardin & Jardin	11-4-70	2-23-71	35,358.80	35,358.80
Shotwell St. – 18th St. to 19th St. Sewer Reconstruction Bepco Inc.	1-6-71	3-29-71	34,007.75	34,007.75

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Scott St. — O'Farrell St. to Geary St. Reconstruction Bepco Inc.	2-24-71	4-19-71	\$ 11,862.00	\$ 11,862.00
9th Ave. — Judah St. to Ortega St. Sewer Enlargement O.C. Jones & Son	3-17-71	45%	280,668.00	115,020.00
22nd & Lake Overflow Sewer Reconstruction Mitchell Plumbing Co.	12-4-70	99%	69,682.29	12,500.00
Total Awarded and Expended During Fiscal Year			\$1,158,481.50	\$1,158,211.66

#### D-2 SEWERS — CONCRETE MONOLITHIC

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Division St. Auxiliary Sewer Section 'D' Sewer Construction Underground Construction Co.	10-1-69	3-24-71	\$ 516,751.85	\$ 269,701.85
6th Street — Bryant St. to Folsom St. Auxiliary Sewer Mitchell Plumbing Co.	4-23-71	15%	432,502.00	58,500.00
6th Street — Folsom St. to Natoma St. Auxiliary Sewer Mitchell Plumbing Co.	4-28-71	8%	349,284.00	25,830.00
6th Street — Natoma St. to Market St. Auxiliary Sewer H. Olson & Flora Crane J.V.	5-5-71	0	398,710.00	0
Total Awarded and Expended During Fiscal Year			\$1,180,496.00	\$ 354,031.85

#### D-3 ENVIRONMENTAL WASTE CONTROL

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
S.E. Sewage Treatment Plant Sludge Filtration System Impr. H.R.S. Engineers	11-10-68	8-10-70	\$ 348,780.99	\$ 113,230.99
Richmond Sunset Sewage Treatment Plant Reconstruct Headworks Facilities Steinlauf Electric	2-19-69	3-5-71	783,617.72	301,127.72
Southeast Sewage Treatment Plant Gas Recirculation Scott Co. of California	5-23-69	11-24-70	541,490.99	105,440.99
Southeast Water Pollution Control Plant Macroscopic Solids Removal Monterey Mechanical	11-28-69	4-1-71	1,121,497.33	870,397.33
Baker St. Outfall Dissolved Air Flotation Facilities S. & Q. Construction Co.	1-30-70	12-18-70	2,093,655.36	1,043,895.36

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Log Cabin Ranch Junior Facility Additions				
Trans-Western Construction Co.	3-18-70	7-31-70	\$ 18,224.00	\$ 2,114.00
North Point Water Pollution Control Plant Revise Sludge Discharge Line				
C. Norman Peterson	5-13-70	1-2-71	26,725.68	26,725.68
North Point Water Pollution Control Plant Chemical Feeder Plant				
Calgon Corp.	4-17-70	11-19-70	33,414.42	6,717.67
North Point Water Pollution Control Plant Sedimentation Tank Scum Removal				
Healy Tibbits	7-8-70	4-6-71	97,942.70	97,942.70
Hydrologic & Hydraulic Data Acquisition Data Recording System				
L.F.E. Corp.	8-14-70	84%	357,499.00	271,890.00
North Point Water Pollution Control Plant Spray Water System				
A.F.B. Contractors	7-10-70	11-5-70	13,890.00	13,890.00
North Point Water Pollution Control Plant Ferric Chloride Feeder				
Mitchell Plumbing	11-13-70	12-15-70	9,882.63	9,882.63
R.S.S.T. Plant Ferric Chloride Feeder				
S. & Q Construction Co.	12-14-70	3-23-71	42,565.73	42,565.73
North Point Water Pollution Control Plant Ferric Chloride System				
Mitchell Plumbing	3-31-71	90%	15,000.00	14,000.00
Various Water Pollution Control Plants Floodlights				
Electrical Construction & Sales	3-26-71	0	11,769.00	0
Southeast Water Pollution Control Plant Salt Water Pumps				
E. H. Morrill Co.	4-30-71	0	16,191.00	0
Log Cabin Ranch School for Boys Filtration Equipment				
Von Raesfeld Engineering Co.	5-28-71	0	11,640.00	0
Total Awarded and Expended During Fiscal Year			\$ 576,380.06	\$2,919,820.80

#### D-4 PUMPING STATIONS

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Southeast Water Pollution Control Pumping Station Modification				
A.F.B. Contractors	6-10-70	10-14-70	\$ 9,998.00	\$ 9,998.00
4th St. Pumping Station Mechanical System Alteration				
S. & Q. Construction Co.	8-19-70	4-20-71	82,070.35	82,070.35
S.F.F.D. Pumping Station No. 2 Plumbing Alt. & Related Work				
Alart Plumbing Inc.	9-11-70	3-31-71	15,780.50	15,780.50
Marina Pumping Station Bar Rack Alterations				
Crown Iron Works	10-30-70	2-24-71	2,167.00	2,167.00
Total Awarded and Expended During Fiscal Year			\$110,015.85	\$110,015.85



# E — STREET BEAUTIFICATION

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Judah St. — 44th Ave to La Playa Street Lighting Emsco Electric Corp.	5-29-69	7-28-70	\$ 18,286.00	\$ 3,436.00
Aquatic Park Stage I Street Lighting R. Flatland	6-25-69	2-28-71	32,578.62	5,218.62
San Jose Ave. — Ocean to Randall Street Lighting R. Flatland	7-11-69	8-21-70	93,623.12	16,853.12
Redevelopment Area A-2 Contract 'A' Street Lighting Steiny & Mitchel	9-26-69	4-20-71	58,386.00	21,126.00
Pacific Scott Broadway Street Lighting Abbett Electric Corp.	10-8-69	4-13-71	55,399.00	8,599.00
California St. — Kearny to Drumm Sts. Street Lighting Rudolph Electric Co.	11-28-69	8-12-70	51,513.75	16,233.75
Fulton St. & Adjacent Streets Street Lighting R. Flatland	2-25-70	90%	138,890.00	102,510.00
Pierce St. — Jackson to Lombard St. Green St. — Pierce St. to Scott St. Street Lighting Emsco Electric Corp.	2-25-70	9-10-70	31,950.00	18,450.00
Alamo Square Area Contract 1 Street Lighting Steiny & Co., Inc.	4-17-70	75%	35,000.00	22,770.00
Sunset Blvd. — Yorba to Lake Merced Landscaping & Irrigation Collishaw Sprinkler	4-22-70	4-7-71	65,067.72	20,697.72
North Waterfront Area Stage I Street Lighting R. Flatland	5-8-70	9-4-70	5,456.00	5,456.00
Mason St. — Sacramento to Pacific Street Lighting Abbett Electric Corp.	5-6-70	95%	19,564.00	1,980.00
Various Downtown Underground Districts Street Lighting Abbett Electric Corp.	5-20-70	7-21-70	9,650.00	1,010.00
South of Market Area 1 A Street Lighting Abbett Electric Corp.	6-10-70	85%	288,082.00	216,360.00
Franklin St. — Market St. to Bay Gough St. — Market St. to Bush Street Lighting Emsco Electric Corp.	6-24-70	6-18-71	186,379.13	186,379.13
Pine St. — Van Ness to Davis & Adjacent Sts. Street Lighting Rudolph Electric	6-24-70	5-13-71	90,630.24	90,630.24
Phelan Ave. — Ocean Ave to Flood St. Street Lighting Rosendin Electric	6-24-70	10-27-70	7,408.00	7,408.00

<b>Description &amp; Contractor</b>	<b>Awarded</b>	<b>Completion Date or %</b>	<b>Contract Amount</b>	<b>Amount Expended</b>
Judah St. — Vicinity 44th Ave. to La Playa Sidewalk Trees R.C. Windsor	6-5-70	10-16-70	5,380.50	5,380.50
3rd St. — Islais Creek to James Lick Freeway Sidewalk Trees Rudolph Watson Inc.	6-5-70	12-11-70	59,284.00	59,284.00
8th St. — Bryant to Brannan Center Island Landscaping Sibbald Construction Co.	5-29-70	10-30-70	15,573.73	15,573.73
Aquatic Park Stage II Street Lighting Emsco Electric Corp.	6-12-70	6-25-71	49,538.75	49,538.75
Mission Street — Otis St. & 13th St. Landscaping J.H. Fitzmaurice Inc.	6-5-70	11-9-70	26,879.95	26,879.95
Jordan Park Area Street Lighting Steiny & Co. Inc.	7-17-70	3-8-71	49,522.73	49,522.73
13th St. — Indiana to Iowa St. Street Lighting R. Flatland	7-17-70	8-21-70	1,320.00	1,320.00
North Market Area Contract I Street Lighting R. Flatland	7-29-70	3-11-71	178,360.71	178,360.71
South of Market Area Contract 1B Street Lighting Abbett Electric Corp	8-5-70	90%	193,516.00	142,470.00
Robin Hood Drive Street Lighting R. Flatland	7-17-70	2-5-71	5,328.50	5,328.50
Fillmore St. — Lombard to Chestnut & Magnolia Street Lighting Rosendin Electric	8-19-70	2-4-71	12,194.50	12,194.50
South of Market Area Contract 1C Street Lighting Ets Hokin Corp	8-26-70	90%	191,492.50	142,920.50
South of Market Area Contract 2 Street Lighting Abbett Electric Corp	8-26-70	98%	182,652.00	170,910.00
Hunters Point Area Stage I Street Lighting R. Flatland	9-18-70	2-17-71	6,175.20	6,175.20
Pinelake Area Street Lighting Steiny & Co.	10-7-70	3-8-71	56,997.00	56,997.00
Russian Hill Area Stages II & III Street Lighting Rosendin Electric Co.	11-4-70	99%	80,181.00	65,070.00
Miraloma Paris Area Street Lighting R. Flatland	11-25-70	95%	418,450.00	374,220.00
Redevelopment Area A-2 Street Lighting R. Flatland	12-18-70	5-11-71	32,506.00	32,506.00

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Locksley Ave — Kirkham to Warren Street Lighting Emsco Electric	1-15-71	4-12-71	10,334.70	10,334.70
Pierce St. — Oak St. to Fell St. Street Lighting Rudolph Electric Co.	1-15-71	5-4-71	4,180.40	4,180.40
Duboce Triangle Area Stage I Street Lighting Steiny & Co., Inc.	1-20-71	5-18-71	30,513.50	30,513.50
Pacific Heights Area Street Lighting Rosendin Electric Inc.	1-27-71	11%	185,506.00	38,340.00
Front St. — Pacific to Broadway Street Lighting Rudolph Electric Co.	2-24-71	5-18-71	1,998.00	1,998.00
Lincoln Way — Arguello to 38th Ave Street Lighting Rosendin Electric Inc.	3-24-71	30%	35,444.00	10,620.00
Pine St. — Van Ness to Presidio Sidewalk Trees Davey Tree Surgery Co.	3-31-71	10%	29,991.00	0
Pennsylvania Ave. Off Ramp Modify Street Lights R. Flatland	3-10-71	5-24-71	1,947.00	1,947.00
Clayton Corbett Intersection Stairway Light Rudolph Electric Co.	4-23-71	0	1,140.00	0
Castro St. — Divisadero to Market Sidewalk Trees Marina Florist	6-4-71	0	16,904.00	0
Taylor St. — Bay St. to Jefferson St. Streetside Landscaping Marina Florist	6-9-71	0	19,644.00	0
Cayuga Ave. — Mt. Vernon Area Street Lighting and Related Work R. Flatland	6-16-71	0	38,500.00	0
Castro St. — Duboce to Market Street Lighting (U.G.D. 243) Steiny & Co., Inc.	6-16-71	0	39,629.00	0
Bosworth St. — Lyell to Elk Contract No. 2 Landscaping Munkdale Bros. Inc.	6-11-71	0	30,755.58	0
Dolores St. — Market to Randall Center Island Landscaping Huettig & Schromm Inc.	6-16-71	0	105,000.00	0
Sacramento St. — Fillmore to Divisadero Street Lighting R. Flatland	6-25-71	0	41,880.00	0
Total Awarded and Expended During Fiscal Year			\$2,002,063.32	\$2,237,702.75

**F – RECREATION-PARK**

<b>Description &amp; Contractor</b>	<b>Awarded</b>	<b>Completion Date or %</b>	<b>Contract Amount</b>	<b>Amount Expended</b>
Marina Small Craft Harbor Improvement of Seawall De Narde Construction Co.	6-4-69	7-20-70	\$262,206.75	\$ 36,846.75
Brooks Property Paving - Walls - Lighting J.H. Fitzmaurice Inc.	8-22-69	10-30-70	11,759.00	11,759.00
McLaren Park Grading & Landscaping O.C. Jones	10-29-69	12-24-70	298,631.28	111,611.28
Golden Gate Park Water Reclamation Plant Reconstruction Sand Discharge W.L. Farley	12-31-69	7-22-70	7,650.00	4,230.00
Christopher Park Grading - Landscaping - Irrigation Huettig & Schromm	1-23-70	1-18-71	444,911.11	326,021.11
Various Rec. Park Locations Resurface Courts Mallott Peterson Grundy	3-18-70	7-24-70	44,333.00	9,323.00
S.F. Zoological Gardens Tropical Aviary Alterations Wm McIntosh & Son	5-22-70	11-21-70	56,128.24	47,038.24
S.F. Zoological Gardens Admission Facility Wm McIntosh & Son	3-25-70	7-6-70	8,277.99	1,167.99
McLaren Park Recreation - Landscaping Development Huettig & Schromm	5-20-70	4-7-71	215,415.20	215,415.20
S.F. Zoological Gardens Reconstruct Fencing Tholl Fence Inc.	5-13-70	8-4-70	6,131.00	6,131.00
Excelsior Playground Reconstruct Lighting Facility Electrical Construction	6-17-70	10-16-70	10,850.00	10,850.00
Candlestick Park Resurface Parking Area McGuire & Hester	6-12-70	8-3-70	26,598.24	26,598.24
Marina Small Craft Harbor Dredging Smith Rice Co.	6-10-70	7-23-70	4,990.00	4,990.00
Lake Merced Shoreline Development Shoreline Development Collishaw Sprinkler Co.	6-5-70	90%	200,610.50	167,670.00
Various Mini Parks Contract I Construction Bidegain Landscaping Co.	9-11-70	95%	41,999.00	38,610.00
Eugenia Ave. – East of Prentiss Bernal Heights Mini Park G.M. Labrucherie	7-15-70	12-31-70	23,834.00	23,834.00
Jtah St. Near 18th St. Mini Park Construction Sibbald Construction Co., Inc.	10-14-70	4-20-71	8,365.00	8,365.00

<b>Description &amp; Contract</b>	<b>Awarded</b>	<b>Completion Date or %</b>	<b>Contract Amount</b>	<b>Amount Expended</b>
Candlestick Park – Parking Lot Resurfacing McGuire & Hester	10-28-70	2-19-71	\$ 38,297.27	\$ 38,297.27
John McLaren Park Amphitheater Construction Labrucherie & Assoc.	12-2-70	74%	226,669.00	150,300.00
Page St. – Laguna to Octavia Mini Park Construction Bidegain Landscaping	11-25-70	4-29-71	17,873.00	17,873.00
Golden Gate Park Strybing Arboretum Demonstration Site Development Cagwin & Dorward	12-9-71	3-10-71	15,862.40	15,862.40
Golden Gate Park Music Concourse Fountain Rehabilitation Collishaw Sprinkler	1-15-71	25%	43,590.00	9,450.00
Various Mini Parks Contract No. 2 Construction Bidegain Landscaping	1-29-71	28%	37,337.00	8,820.00
Clayton Cole Mini Park Construction Watkins & Sibbald	2-17-71	5-10-71	8,228.89	8,228.89
S.F. Zoological Gardens Storyland Reconstruct Animal Contact Area Stenmark Construction Co.	3-17-71	66%	44,530.00	27,360.00
Potrero Hill Area Mini Park Construction T.M.T. Co	3-31-71	65%	12,378.00	7,200.00
Various Locations Resurface Courts & Play Area Cold Mix Resurfacing Malott Peterson Grundy	4-16-71	99%	47,887.00	43,020.00
Various Rec. Park Locations Resurface Walks & Paths Asphalt Paving Co.	4-28-71	98%	16,665.00	14,220.00
Funston Playground Rehabilitate Lighting System American Construction Inc.	5-21-71	0%	19,845.00	0
Various Mini Parks Contract No. 3 Construction A. & J. Shooter Co.	5-7-71	10%	63,520.00	5,400.00
South Park Rehabilitation J.H. Fitzmaurice Inc.	6-18-71	0%	71,734.00	0
Golden Gate Park Strybing Arboretum John Muir Nature Trail Glen E. Gibson Inc.	6-16-71	0%	62,999.00	0
S.F. Zoological Garden Tropical Aviary Interior Landscaping Tamal Construction Co.	6-23-71	0%	36,820.00	0
Total Awarded and Expended During Fiscal Year			\$838,433.56	\$1,396,492.37

**G-1 MISCELLANEOUS**

<b>Description &amp; Contractor</b>	<b>Awarded</b>	<b>Completion Date or %</b>	<b>Contract Amount</b>	<b>Amount Expended</b>
Broadway Tunnel Ventilation Control System Cornely Co.	11-21-69	9-23-70	\$ 24,976.00	\$ 3,646.00
Gilman Ave at Griffith Pedestrian Overpass Moore Construction Co.	4-8-70	1-10-71	90,727.36	84,157.36
Alemanly Blvd. — Naglee to Farragut Retaining Wall O.C. Jones	6-17-70	10-13-70	24,694.50	24,694.50
Palace Legion of Honor Outdoor Lighting Rudolph Electric	10-16-70	3-16-71	26,689.18	26,689.18
4th St. Bridge Reconstruction Mechanical Electrical - Structural Abbott Electric Corp.	10-14-70	0	286,920.00	0
Portola Drive at Kensington Pedestrian Overcrossing Holmes & Holmes Clair	3-31-71	15%	84,448.00	10,710.00
Log Cabin Ranch School for Boys Test Holes for Water Maggiore Bros.	11-20-70	1-28-71	4,450.00	4,450.00
Islais Creek Pile Dolphin Construction Repair Healy Tibbitts	2-10-71	3-30-71	6,900.00	6,900.00
Marina Small Craft Harbor Installation Portable Toilets Nibbi Bros.	4-9-71	0	4,995.00	0
Total Awarded and Expended During Fiscal Year			\$414,402.18	\$161,247.04

**G-2 PARKING FACILITIES**

<b>Description &amp; Contractor</b>	<b>Awarded</b>	<b>Completion Date or %</b>	<b>Contract Amount</b>	<b>Amount Expended</b>
West Portal Parking Plaza No. 2 Construction Biltwell Development	7-22-70	1-25-71	\$ 72,186.26	\$ 72,186.26
Bayview District Public Parking Facility Construction Lowrie Paving Co., Inc.	8-19-70	1-8-71	28,528.00	28,528.00
Total Awarded and Expended During Fiscal Year			\$100,714.26	\$100,714.26

### G-3 SLIDES

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
San Jose Ave. Near Richland Western Slope Reconstruction P. & Z. Co.	7-17-70	12-19-70	\$ 91,141.00	\$ 91,141.00
Green St. — Sansome to Montgomery Slope Stabilization Valentine Corp.	7-17-70	10-1-70	19,615.93	19,615.93
Coralino Lane Slide Repair Kulchin & Wagner Inc.	12-11-70	5-4-71	16,200.00	16,200.00
Pioneer Park — Lombard to Kearny Drill Exploratory Holes Guy F. Atkinson Co.	2-8-71	4-20-71	13,276.11	13,276.11
Lombard & Kearny St. Drill Exploratory Holes Guy F. Atkinson Co.	5-7-71	50%	45,000.00	0
Total Awarded and Expended During Fiscal Year			\$185,233.04	\$140,233.04

### H SERVICE ORDERS & AGREEMENTS

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
S.E.S.T. Plant Outfall Design J.H. Pomeroy Inc.	1-5-66	95%	\$ 40,650.00	\$ 40,185.00
R.S.S.T. Plant Improvements Design Consoer Townsend	6-8-66	99%	70,208.70	57,912.95
S.E.S.T. Plant Outfall Modification J.H. Pomeroy	6-1-67	0	1,700.00	0
McLaren Park Plans & Specs J. Francis Ward Architects	12-14-67	90%	13,500.00	10,800.00
Market St. Reconstruction Consultants Ciampi-Warnecke Assoc.	10-23-68	10%	100,000.00	9,579.18
Market St. Preliminary & Final Dwgs. Ciampi-Warnecke Assoc.	10-23-68	80%	420,000.00	322,787.28
Air Flotation Study Engineering Science	11-13-68	60%	297,500.00	170,554.39
Macroscopic Solids Pilot Treatment Franklin J. Agardy	5-8-69	0	2,500.00	0
Capacity Rating 3rd St. Bridge Sverdrup Parcel Assoc.	6-25-69	40%	25,500.00	15,471.89
Design Submarine Outfall Pat Wilde Oceanographer	10-14-69	30%	4,500.00	1,350.00
Design Submarine Outfall P.H. McGahey	10-14-69	40%	4,500.00	1,747.87
Design Submarine Outfall Wheeler S. North	10-14-69	0	4,500.00	0
Lighting Design Legion Honor Yanow & Bauer	12-9-69	100%	1,200.00	1,050.00



Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
McLaren Park Arch Service Yuill-Thornton-Warner	2-14-69	70%	16,500.00	11,880.00
Hydraulic Water Quality Model Water Resource Engineers	2-11-70	40%	224,400.00	90,761.04
S.E.W.P. Plant Investigation Harold Iverson	3-12-70	100%	200.00	175.00
S.E.W.P. Plant Chlorination Impr U.R.S. Research Co.	3-20-70	100%	42,200.00	42,200.00
Plans & Cost Upper Market St. Whisler Patri	4-14-70	50%	51,000.00	24,300.00
Design Submarine Outfall John D. Parkhurst	4-16-70	0	750.00	0
Baker St. Outfall Facility Engineering Science Inc.	4-30-70	55%	19,500.00	11,908.61
Report & Study Material Quality Brown & Caldwell	5-8-70	80%	136,060.00	111,301.52
Market St. Tree Purchase Valley Crest Tree	5-8-70	65%	206,448.00	134,191.20
Hydrological Data Acquisition Control System Inc.	6-12-70	75%	16,650.00	12,285.00
Army St. Circle Subsurface Soil Lee & Praszker	6-22-70	25%	5,000.00	1,308.56
Underwater Specialty Diving Murphy Pacific Marine	7-8-70	100%	10,000.00	8,750.00
Modify N.P.S.T.P. Facility Mitchell Plumbing Co.	7-10-70	100%	2,500.00	2,500.00
Golden Gate Park Irrigation System Pump Repair Service	7-16-70	100%	1,970.00	1,730.00
Ecological Investigation Curtis L. Newcombe	7-17-70	75%	4,500.00	3,450.00
Twin Peaks Subway Cost Estimate DeLeuw Cather	8-7-70	50%	10,000.00	5,100.87
John Muir Trail Plans & Specs Ecko Dean & Assoc.	8-19-70	45%	10,000.00	4,500.00
Salt Water Facilities Temp. Pump Repair Service	8-28-70	100%	20,000.00	19,880.00
Pump Vibration Inspection Johnson Pump	9-17-70	100%	500.00	160.00
Mission St. BART Station Area Design Urban Associates	9-18-70	75%	10,000.00	7,621.65
Cost Determination Treatment Plants Engineering Science	10-9-70	0	5,000.00	0
Golden Gate Park Water Service Pump Repair Service	10-14-70	100%	3,178.38	3,178.38
Testing Toxic Discharges U.R.S. Research	10-27-70	100%	3,000.00	2,963.70
Subsurface Material Testing Dames & Moore	11-12-70	0	3,500.00	0
Ferric Chloride System Monterey Mechanical	12-2-70	50%	38,000.00	18,810.00
Consulting On Coagulants Dr. Perry McCarthy	12-2-70	0	3,000.00	0

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Rainfall Data Analysis J.B. Franzini	12-8-70	50%	4,500.00	2,200.00
Consulting Service Harlan Associates	12-3-70	100%	500.00	500.00
Design Submarine Outfall Brown & Caldwell	12-23-70	55%	315,000.00	170,222.00
Bridge Pad Testing State of Calif.	12-29-70	100%	200.00	143.00
Samples on R.S.S.T. Plant Flowstream Cook Research Lab	1-4-71	100%	2,200.00	2,200.00
Test Samples Cook Research Lab	1-15-71	100%	3,800.00	3,800.00
Landscape Irrigation Testing Pitometer Assoc.	1-22-71	100%	600.00	540.00
Emergency Repair Sewer Mitchell Plumbing	1-29-71	100%	4,900.00	5,338.68
Salt Water Facility Pump Repair Service	2-1-71	65%	27,500.00	21,216.29
Consulting Service N.P. Outfall Brown & Caldwell	2-10-71	15%	332,000.00	54,933.12
Specialty Inspection Islais Creek Murphy Pacific	2-19-71	100%	3,000.00	1,360.00
Monument Removal Sheedy Transport Co.	3-5-71	100%	2,000.00	950.00
Consulting Service N.P. Lift Pump Station Sverdrup Parcel Assoc	3-10-71	10%	80,000.00	8,017.43
Test Soil Materials Trees Soil & Plant Laboratory	3-19-71	0	1,000.00	0
Consulting & Design N.P. Macroscopic Metcalf & Eddy	3-19-71	20%	123,000.00	21,176.23
Welding Inspection Testing Engineers	3-19-71	100%	1,200.00	1,200.00
Test Construction Material Testing Engineers	3-19-71	0	1,500.00	0
Architectural & Engr. Service Royston-Hanamoto Beck Abbey	3-24-71	10%	49,500.00	4,258.44
Ground Water N.P.W.P. Control Plant Dames & Moore	4-9-71	40%	17,000.00	7,486.68
Market St. Brick Purchase Higgins Brick & Tile	4-23-71	0	608,200.00	0
Capp St. Sewer Reconstruction Lowrie Paving	5-3-71	0	2,500.00	0
Macroscopic Solids Removal Monterey Mech.	5-7-71	0	950.00	0
Evaluate Soil & Plant Material Soil & Plant Laboratory	5-7-71	0	200.00	0
Wet Weather Cost Estimate Albert D. Parker	5-25-71	65%	4,800.00	2,795.00
Mission St. Tree Maintenance Valley Crest Tree Co.	5-28-71	100%	5,085.00	5,085.00

Description & Contractor	Awarded	Completion Date or %	Contract Amount	Amount Expended
Laboratory Service				
Brown & Caldwell	6-7-71	0	4,900.00	0
Laboratory Service				
Pacific Environmental Laboratory	6-15-71	0	10,000.00	0
Subsurface Material Evaluation				
Woodward Lundgren	6-18-71	0	20,000.00	0
Evaluate Materials				
Abbett Hanks	12-11-70	15%	1,000.00	152.00
Temporary Sewer Plugs				
Lowrie Paving	11-20-70	75%	7,600.00	5,691.60
Ferric Chloride Feeder				
Mitchell Plumbing	11-13-70	55%	40,000.00	20,970.00
Mathematical Hydrologic Model				
Water Resource Engr.	1-29-70	85%	4,000.00	3,576.61
Wet Weather Study Consult.				
Watermation Engr.	8-19-70	55%	1,000.00	550.00
<b>Hawke Engineers</b>				
6th St. Inspection & Consultation	5-28-71	0	1,700.00	0
S.E.W.P. Digestors	5-2-71	0	1,500.00	0
Pioneer Park Emergency Work	5-25-71	0	4,900.00	0
San Jose Ave Slope	10-30-70	100%	500.00	483.00
Pioneer Park	5-5-71	100%	10,000.00	9,981.42
Lombard St.	7-31-70	100%	2,950.00	2,950.00
Miscellaneous Slides	8-26-70	50%	4,000.00	2,019.44
<b>BART Service Orders</b>				
Powell St. Station	8-21-70	0	72,932.00	0
16th & 24th Mission Station	12-18-70	0	14,278.00	0
Civic Center Station	11-17-70	0	2,300.00	0
16th & 24th Mission Station	11-17-70	100%	57,000.00	57,000.00
Powell St. Station	11-9-70	100%	36,789.00	36,789.00
Civic Center Station	5-3-71	100%	6,332.00	6,332.00
Montgomery St. Station	1-29-70	100%	122,744.00	122,744.00
Civic Center Station	3-26-71	100%	123,698.00	123,698.00
Total Awarded and Expended			\$2,143,662.38	\$1,856,753.03



# APPENDIX II

## BUREAU OF ARCHITECTURE CURRENT CONTRACT DATA SUMMARY

Showing All Contract Work Awarded or Under Construction  
July 1, 1970 - June 30, 1971

### I Contracts Awarded During Fiscal Year 1970-1971

Table	Type of Construction	Contracts No.	Awarded Aggregate Value	Amount Expended Fiscal Year 1970-71
A-1	New School Construction	3	\$ 8,725,660	\$ 1,127,879
A-2	Misc. Alterations -			
	Schools	42	643,232	252,717
A-3	Acoustical Work	5	37,213	559
A-4	Roofing Jobs	8	56,494	37,100
A-6	Int. & Ext. Painting	17	104,564	78,363
A-7	Yard Paving	5	160,322	117,786
C-1	S.F. General Hospital	4	28,822,895	3,995
D	DeYoung Museum	1	3,646	3,646
F	Civic Center	17	148,004	132,564
G	Hall of Justice	2	17,261	14,785
H	Miscellaneous	17	11,942,504	4,755,978
	Sub Totals	121	\$50,661,795	\$ 6,525,372

### II Other Contracts Under Construction During Fiscal Year 1970-1971

Table	Type of Construction	Contracts No.	Awarded Aggregate Value	Amount Expended Fiscal Year 1970-71
A-1	New School Construction	6	\$ 9,934,540	\$ 4,566,606
A-2	Misc. Alterations -			
	Schools	19	1,325,077	1,107,296
A-3	Acoustical Work	5	182,974	177,728
A-6	Int. & Ext. Painting	8	78,604	78,604
A-7	Yard Paving	3	92,341	95,792
B-2	Fire Department -			
	Reconstruction	1	16,174	16,174
C-1	S.F. General Hospital	5	5,358,965	3,714,709
C-3	Health Center Building	1	1,538,000	256,623
D	DeYoung Museum	1	15,743	15,743
H	Miscellaneous	10	2,691,415	1,423,851
	Sub Totals	59	\$21,233,833	\$11,453,126

III All Contracts Awarded Or Under Construction During Fiscal Year 1970-1971  
( Total of I and II )

Table	Type of Construction	Contracts No.	Awarded Aggregate Value	Amount Expended Fiscal Year 1970-71
A-1	New School Construction	9	\$18,660,200	\$ 5,694,485
A-2	Misc. Alterations - Schools	61	1,968,309	1,360,013
A-3	Acoustical Work	10	220,187	178,287
A-4	Roofing Jobs	8	56,494	37,100
A-6	Int. & Ext. Painting	25	183,168	156,967
A-7	Yard Paving	8	252,663	213,578
B-2	Fire Department - Reconstruction	1	16,174	16,174
C-1	S.F. General Hospital	9	34,181,860	3,718,704
C-3	Health Center Building	1	1,538,000	256,623
D	DeYoung Museum	2	19,389	19,389
F	Civic Center	17	148,004	132,564
G	Hall Of Justice	2	17,261	14,785
H	Miscellaneous	27	14,633,919	6,179,829
Totals		180	\$71,895,628	\$17,978,498

On the following pages appear separate tables of current contracts for each of the types of construction listed above. The Source of the funds used to finance each project is indicated in the tables according to the following:

ABBREVIATION      LEGEND

Designation	Description of Fund
General	General Fund City and County
District	Funds of S.F. Unified School District
Children's Center	S.F. Unified School District Special Fund
Private	Private Donation
1964 School	S.F. Unified School District Bond Issue voted November 3, 1964, in amount of \$31,464,500
1964 Bond Fund	Fire Department Bond Issue Voted November 3, 1964, in amount of \$4,890,000
School District Fund	
Special Reserve	

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-1 NEW SCHOOL CONSTRUCTION					
Potrero Hill Jr. H.S. (2970-A) General Construction James E. Roberts Co.	11-27-68	6-21-71	\$3,492,051	\$1,604,405	1964 Bond Issue
Visitation Valley Jr. H.S. (2950) General Construction Engstrum & Nourse	12-18-68	4-23-71	3,791,360	1,608,022	1964 Bond Issue
Bret Harte School Addition (3000) General Construction De Narde Const. Co.	2-14-69	9-25-70	553,283	315,304	1964 Bond Issue
City College of S.F. (3082) Student Union Bldg. Engstrum & Nourse	7-11-69	8-28-70	666,944	128,221	1964 Bond Issue
Various Schools (3121) New Portable Bldgs. De Narde Const. Co.	8-1-69	6-30-70	163,889	20,684	District
Grattan Elem. School (3150) General Construction Ralph Larsen & Son, Inc.	1-14-70	91%	1,267,013	889,970	District
City College of S.F. (3255) Creative Arts Bldg. Ext. Engstrum & Nourse	10-9-70	44%	1,511,000	655,906	1964 Bond Issue
Diamond Heights H.S. (3160-R) General Construction Cahill Construction Co.	3-10-71	7%	7,030,000	471,973	1964 School Bond
Laguna-Golden Gate Children's Center (3357) New Children's Center Nibbi Bros.	6-25-71	0	184,660	0	Children's Center
Total Aggregate Value and Amount Expended			\$18,660,200	\$5,694,485	



## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-2 MISC. ALTERATIONS					
Various Schools (3098) New Prefabricated Portable Buildings Speedspace Corp.	5-29-69	11-9-70	\$ 197,980	43,649	District
Various Schools (3143) Wire Mesh Enclosures Anchor Post Products, Inc.	11-14-69	4-4-70	10,560	1,560	District
Everett Jr. High School Annex Rental of Prefab. (3182) Portable Bldgs. Designed Facilities Corp.	3-11-70	60%	80,325	26,775	District
Everett Jr. High School Annex Utility Services for (3186) Temp. Portable Classroom Bldgs. Monty W. Connery	3-13-70	10-20-70	17,847	5,435	District
McKinley School (3184) New Electric Service Edward W. Scott Elec.	8-18-70	7-21-70	8,248	8,248	District
Gough-Page Children's Center Floor Coverings (3178) Wilber Carney Floorcovering	3-25-70	7-7-70	1,723	1,723	Children's Centers
Board of Education Bldg. (3173-R) Mail Room - Elec. Work Tommie Electrical Contr.	3-25-70	9-11-70	1,396	1,528	District
George Peabody School (3193) Serving Counter & Sink Replacement Thoma's Sheet Metal	4-15-70	7-7-70	1,980	1,980	District
James Denman Jr. H.S. (3212) Fire Damage Repair H. E. Rahlmann Co.	5-22-70	12-1-70	\$ 9,182	\$ 9,182	District
Lowell High School (3211) Central Broadcasting & Programming System Fagan Electric Co.	5-15-70	12-1-70	17,791	17,791	District
James Denman Jr. High School (3216) Kitchen Ventilation Alter. Valley Sheet Metal Co.	5-22-70	11-4-70	1,925	1,925	District
Mission High School (3215) Resurfacing Roof Deck Robert E. Thompson	5-15-70	7-29-70	3,632	3,632	District
Board of Education Bldg. (3195) New Electric Service Collins Elec. Co.	5-27-70	9-17-70	16,859	16,859	District
Presidio Jr. High School (3231) Metal Guards Crown Iron Works	6-10-70	8-13-70	1,876	1,876	District

CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-2 MISC. ALTERATIONS (cont.)					
Dudley Stone School (3236) Garbage Can Enclosures Wm. McIntosh & Son	6-10-70	8-12-70	1,245	1,245	District
Various Children's Centers (3233) Storage Sheds Kroloff & Mannoni	6-10-70	10-6-70	3,569	3,569	District
Presidio Jr. High School (3221) Counseling Rooms S.P.D. Const. Co.	7-1-70	8-25-70	10,353	10,353	District
Guadalupe School (3185) Struc. Stiffening & Repair of Fire Damage Carl F. Hartmen Const.	7-1-70	99%	\$ 49,758	\$ 56,591	District
Diamond Heights Elem. School (3183) Repair of Masonry Wall A.P.I. Specialty Const.	7-1-70	10-15-70	6,931	6,931	District
Balboa High School (3253) Alterations to Existing Central Broadcasting & Programming System Cormac	6-26-70	8-11-70	586	586	District
Cabrillo School Annex (3238) Covered Walkway S.P.D. Const. Co.	7-1-70	10-1-70	16,893	16,893	District
Balboa High School (3234) New Ceramics Room Kroloff & Mannoni	7-1-70	1-5-71	10,369	10,369	District
Galileo High School (3223) Central Broadcasting & Programming System Fagan Electric	7-1-70	11-20-70	18,527	18,527	District
Various Schools (3251) Utility Services - New Portable Classrooms Bldgs. Trans-Western Const.	6-26-70	1-4-71	119,371	119,371	District
Various Schools (3218) New Portable Classroom Bldgs. Nibbi Bros.	5-12-70	10-15-70	834,764	846,164	District
Everett Jr. High School (3256) Plastic Glazing of Windows S.P.D. Construction Co.	7-10-70	9-8-70	9,274	9,274	District
John O'Connell Vocational High School - Power Machinery (3252) Shop Ventilation Aire Geneva Corp.	7-10-70	10-10-70	5,577	5,577	District

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-2 MISC. ALTERATIONS (cont.)					
George Washington High School (3230) Alterations to Existing Broadcasting System Cormac	7-15-70	7-18-70	4,800	4,800	District
Edison School (3259) Alterations to Girls Toilet Area & New Locker Room Monty W. Connery	7-22-70	12-4-70	5,775	5,775	District
George Washington High School (3219) Remodel. to Pre-Technology Lab - Shop No. 6 Monty W. Connery	7-24-70	98%	22,950	20,242	District
Galileo High School (3262) Wire Mesh Fence Work Western Steel & Wire Co.	8-5-70	10-26-70	1,990	1,990	District
S.F. Community College (3197) Elec. Utility Alterations Decker Electric Co.	9-23-70	80%	59,760	44,695	S.F. Coll District
Roosevelt Jr. High School (3274) 460 Arguello Blvd. Monty W. Connery	10-14-70	95%	10,774	9,211	District
Woodrow Wilson High Sch. (3286) Athletic Field Drainage Ravano Const. Co.	10-28-70	2-4-71	1,150	1,150	District
John O'Connell Vocational (3281) High School - Counter- Flashing Replacement Aire Geneva Corp.	10-23-70	2-24-71	4,328	4,328	District
Mission High School (3277) Elec. & Telephone Outlets Rooms 341 and 342 Fagan Electric Co.	11-13-70	1-20-71	1,672	1,672	District
Francis Scott Key School (3291) Exterior Wall Repairs Nibbi Bros.	11-13-70	2-10-71	1,975	1,975	District
Sir Francis Drake School (3297) Wire Mesh Enclosures San Jose Steel Co.	11-25-70	2-4-71	572	572	District
Geary School (3235) New Concrete Stairs Ravano Const. Co.	12-16-70	4-19-71	7,750	7,750	District
Abraham Lincoln High School (3302) Replacement of North Corridor Lighting Fagan Electric Co.	12-30-70	4-6-71	3,783	3,783	District

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-2 MISC. ALTERATIONS (cont.)					
Alvarado School (3305) Wire Mesh Enclosures Wm. McIntosh & Son	1-6-71	4-8-71	2,011	2,011	District
Balboa High School (3306) Alterations to Existing Broadcasting System The Langevin Co. Inc.	1-6-70	3-4-71	2,466	2,446	District
Portola Jr. High School (3314) Electrical Convenience Outlets Rifkin Electric Co. Inc.	3-17-71	0	2,295	0	District
George Washington High School (3315) Stageboard Replacement Electrical Const. & Sales Corp.	3-17-71	0	19,866	0	District
Argonne School (3312) Electrical Convenience Outlets Rifkin Elec. Co., Inc.	3-5-71	0	2,280	0	District
Edison School & Yerba Buena School (3327) Wire Mesh Enclosures Wm. McIntosh & Son	4-21-71	0	833	0	District
Junipero Serra Children's (3325) Center - Storage Sheds Monty W. Connery	4-21-71	0	2,570	0	District
City College of San Francisco (3335) Replacement of Campus Light Fixtures Cresci Electric	5-19-71	0	14,800	0	S.F. College District
Marina Jr. High School (3337) Kitchen Ventilation Work Madsen Const. Co.	5-19-71	0	3,648	0	District
Various Children's Centers (3339) New Ranges & Base Cabinets Elbe Construction Co.	5-26-71	0	\$ 7,748	0	Children's Centers
Sarah B. Cooper Children's (3338) Center - Toilet Alterations A & P Construction Inc.	5-26-71	0	2,258	0	Children's Centers
Various Children's Centers (3336) Kitchen Renovation Elbe Construction Co.	6-9-71	0	20,584	0	Children's Centers
Potrero Terrace Children's (3334) Center - Kitchen Storage Ext. Boscon Construction Inc.	6-9-71	0	13,750	0	Children's Centers
Page-Broderick Children's (3333) Center - Kitchen Storage Ext. Boscon Construction Inc.	6-9-71	0	12,750	0	Children's Centers

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-2 MISC. ALTERATIONS (cont.)					
Francis Scott Key Annex (3309) New Buildings Handicapped Center Nibbi Bros.	6-9-71	0	76,472	0	District
Frank McCoppin & Sutro (3360) Children's Centers New Lighting Fixtures McClure Electric Inc.	6-25-71	0	4,980	0	Children's Centers
Argonne Children's Center (3332-R) Kitchen Storage Ext. Elbe Construction Co.	6-25-71	0	11,932	0	Children's Centers
Edison, Page-Broderick & (3351) Argonne Children's Centers Yard Drainage Systems Terra Engineers & Constructors	6-25-71	0	\$ 11,800	0	Children's Centers
Francis Scott Key Annex (3352) Children's Center Kitchen Alterations Elbe Construction Co.	6-25-71	0	14,859	0	Children's Centers
Cogswell Polytechnical College (3358) Relocation of Portable Classroom Bldgs. Nibbi Bros.	6-30-71	0	120,087	0	District
Various Children's Centers (3345-R) Installation of Dishwashers A & P Construction Inc.	6-30-71	0	34,500	0	District
Total Aggregate Value and Amount Expended			\$1,968,309	\$1,360,013	

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-3 ACOUSTICAL WORK					
Alemany Adult School (3140) Install Acous. Ceilings & Light Fixtures McClure Electric	4-15-70	9-25-70	\$ 26,511	\$ 26,511	District
McKinley School (3224) Install of Acous. Ceilings & Light Fixtures Wm. McIntosh & Son	5-22-70	3-4-71	58,752	53,506	District
Raphael Weill School (3196) Install of Acous. Ceilings & Light Fixtures Crown Electric	5-15-70	9-2-70	63,557	63,557	District

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
<b>A-3 ACOUSTICAL WORK</b>					
Various Children's Centers (3217) Rewiring, Lighting & Acous. William McIntosh & Son	5-27-70	12-17-70	20,354	20,354	Children's Centers
John Swett School (3232) Acous. Tile Ceilings The Sono-Ceil Co.	6-26-70	9-14-70	13,800	13,800	District
Dudley Stone School (3280) Acous. Tile Ceiling Activity Room The Sono-Ceil Co.	10-28-70	1-29-71	559	559	District
Frank McCoppin and Sutro (3320) Children's Centers Acoustical Ceilings Pritchard & Stone, Inc.	3-26-71	0	2,252	0	Children's Centers
Sarah B. Cooper School (3350) Installation of Acous. Ceilings & Light Fixtures McClure Elec. Inc.	6-9-71	0	6,279	0	Children's Centers
Various Children's Centers (3344) Rewiring, Lighting & Acoustical Work Decker Elec. Co. Inc.	6-9-71	0	\$ 13,930	0	Children's Centers
Francis Scott Key School Annex (3348) Rewiring, Lighting & Acoustical Work McClure Electric Inc.	6-9-71	0	14,193	0	Children's Centers
Total Aggregate Value and Amount Expended			\$ 220,187	\$ 178,287	

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
<b>A-4 ROOFING JOBS</b>					
Dudley Stone School (3261) Reroofing Bungalows Acme Roofing Co.	7-24-70	8-24-70	\$ 1,349	\$ 1,349	District
Sir Francis Drake School (3268) New Gravel Stops Sunset Roofing & Siding Co.	9-4-70	10-6-70	3,117	3,117	District
Francisco Jr. High School (3275) Reroofing Bender Roofing Inc.	10-14-70	0	19,394	0	District

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
<b>A-4 ROOFING JOBS</b>					
Mission High School (3285) Roof Sheet Metal Work Colan Heat. & Sheet Metal Co.	10-28-70	12-28-70	1,131	1,131	District
Marshall School (3278) Reroofing Western Roofing Service	10-28-70	3-23-71	11,433	11,433	District
Jedediah Smith School (3292) Roof Sheet Metal Work Atlas Heating & Vent. Co.	11-13-70	4-6-71	3,989	3,989	District
Fremont School (3299) Replacement of Roof Gutters and Downspouts Atlas Heating & Vent. Co.	12-16-70	2-19-71	7,404	7,404	District
Hunters Point II School (3296) New Roof Gutters Colan Heating & Sheet Metal	12-30-70	3-15-71	\$ 8,677	\$ 8,677	District
Total Aggregate Value and Amount Expended			\$ 56,494	\$ 37,100	

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
<b>A-6 PAINTING</b>					
Paul Revere School (3189) Exterior Painting A B L E Painting Cont.	3-13-70	12-4-70	\$ 4,725	\$ 4,725	District
John Swett School (3177) Int. & Ext. Painting R.P. Paoli & Co.	3-13-70	8-28-70	23,218	23,218	District
Anza School (3181) Ext. Painting R. P. Paoli & Co.	3-13-70	8-5-70	7,440	7,440	District
Andrew Jackson School (3190) Interior Painting Beck Bros.	3-25-70	8-28-70	11,600	11,600	District
Twin Peaks School (3191) Interior Painting A B L E Contractors	4-10-70	8-28-70	6,755	6,755	District
Lafayette School (3192) Interior Painting Beck Bros.	4-15-70	7-31-70	7,864	7,864	District
Presidio Jr. High School (3179) Interior Painting Peter Meininger Paint Co.	4-15-70	8-28-70	6,634	6,634	District



## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-6 PAINTING (cont.)					
Robert Louis Stevenson School Exterior Painting (3242) R.P. Paoli Co.	6-26-70	9-14-70	10,368	10,368	District
Edison School (3240) Exterior Painting R. P. Paoli Co.	7-1-70	9-15-70	6,645	6,645	District
Fremont School (3241) Exterior Painting R & B Painting & Dec. Co.	7-3-70	9-2-70	\$ 5,964	\$ 5,964	District
Sir Francis Drake Annex (3239) School - Int. & Ext. Painting Beck Bros.	7-3-70	2-4-71	16,285	16,285	District
Various Schools (3209) Painting Game Lines Fiberalised Bar & Line Co.	7-10-70	9-17-70	4,710	4,710	District
Marshall School Annex (3249) Exterior Painting New Method Paint & Dec. Co.	7-10-70	9-11-70	5,777	5,777	District
Commodore Sloat School (3260) Partial Ext. Painting Schumacher & Recke Painting	7-22-70	9-16-70	1,975	1,975	District
Junipero Serra School (3254) Exterior Painting T. A. Andrews	7-22-70	10-10-70	4,960	4,960	District
Jean Parker School (3248) Exterior Painting T. A. Andrews	7-22-70	11-10-70	6,850	6,850	District
Alvarado School (3247) Exterior Painting T. A. Andrews	7-22-70	11-10-70	6,450	6,450	District
Jedediah Smith Annex School (3290) Exterior Painting R. P. Paoli & Co.	11-13-70	3-15-71	6,770	6,770	District
Horace Mann Jr. High School (3295) Interior Painting - Aud. & Cafe. R & B Painting & Dec. Co.	11-25-70	1-8-71	\$ 7,400	\$ 7,400	District
Balboa High School (3307) Interior Painting Machine Shop Nathan Bloom Painting	1-6-71	5-25-71	2,990	2,990	District
Board of Education (3311) Bldg. B - Painting Nathan Bloom Painting	3-5-71	0	5,674	0	District
Gough-Page Children's Center (3323) Exterior Painting Beck Bros.	3-26-71	7-15-71	1,637	1,587	Children's Centers

## CURRENT CONTRACT DATE - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-6 PAINTING (cont.)					
Francis Scott Key Annex (3349) Interior Painting Gil's Painting Service	6-9-71	0	4,700	0	Children's Centers
Francis Scott Key School (3361) Partial Int. & Ext. Painting J. Wm. Sorensen, Inc.	6-9-71	0	3,377	0	District
Alemany Adult School (3365) Interior Painting Cal-Western Paint Co.	7-2-71	0	12,400	0	District
Total Aggregate Value and Amount Expended			\$ 183,168	\$ 156,967	
Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
A-7 YARD PAVING					
S.F. Bay Naval Shipyard (3207) Bldg. 512 - Yard Surfacing National Surfacing Co.	4-29-70	7-24-70	\$ 1,561	1,561	District
Francis Scott Key School (3243) Annex - Yard Expansion Monty W. Connery	7-8-70	11-17-70	15,250	15,250	District
Various Schools - Series I (3245) Resurfacing Yard Paving & Painting Game Lines Malott & Peterson-Grundy	7-3-70	9-1-70	29,447	29,447	District
Various Children's Centers (3208-R) Renovation of Play Yards Trans-Western Construction	6-26-70	1-25-71	48,395	48,395	Children's Centers
Various Schools - Series II (3246) Resurfacing Yard Paving & Painting Game Lines Malott & Peterson-Grundy	7-10-70	9-1-70	32,887	32,887	District
City College of S.F. (3129) Resurfacing of Existing Roadways O. C. Jones & Sons	11-14-69	7-21-70	42,385	45,836	District
Various Children's Centers (3237-R) Argonne, Jefferson & Mission Renovation of Play Yards Watkin & Sibbald	11-13-70	5-5-71	40,202	40,202	Children's Centers
Potrero Terrace & Gough-Page (3356) Children's Centers - Paving Tamal Construction Co.	6-25-71	0	42,536	0	Children's Centers
Total Aggregate Value and Amount Expended			\$ 252,663	\$ 213,578	

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
<b>B-2 FIRE DEPARTMENT ALTERATIONS</b>					
Engine Co. No. 25 (3169) Radio Controlled Doors and Hose Racks Monty W. Connery	5-15-70	9-21-70	\$ 16,174	\$ 16,174	General
Total Aggregate Value and Amount Expended			\$ 16,174	\$ 16,174	
Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
<b>C-1 SAN FRANCISCO HOSPITAL</b>					
S.F. General Hospital (3074) Misc. Repairs to Psychiatric Building No. 90 Arthur W. Baum	4-2-69	2-26-70	\$ 79,606	\$ 8,549	General
S.F. Medical Center (3100) Service Building DeNarde Const. Co.	11-5-69	99%	5,222,000	3,669,086	S.F. Med. Center Bond Fund
S.F. General Hospital (2832-R) New Computer Room & Related Work H. E. Rahlmann Co.	12-24-69	10-15-70	29,853	9,568	General
S.F. General Hospital (3137) Repairs to Elec. Work Psychiatric Bldg. 90 Fagan Elec. Co.	3-4-70	6-27-70	23,206	23,206	General
S.F. General Hospital (3205) Elec. & Misc. Work 4th Flr., Ward Bldg. 20 Fagan Electric Co.	6-26-70	9-29-70	4,300	4,300	General
S.F. General Hospital (3270) Ward 12 - Elec. Power Service Rifkin Electric Co.	10-30-70	2-25-71	3,995	3,995	General
S.F. General Hospital (3321) Temp. Relocation of Chemistry-Toxicology Lab Old Pathology Bldg. 2 Monty W. Connery	4-21-71	0	27,700	0	General
S.F. General Hospital (3329) Temp. Relocation of Maintenance Shops Wm. McIntosh & Son	5-19-71	0 11-24	21,400	0	General

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
C-1 SAN FRANCISCO HOSPITAL (cont.)					
S.F. Medical Center (3300-R) New Hospital Bldg. The Wm. Simpson Const. Co.	6-9-71	0	\$28,769,800	\$ 0	S.F. Med. Center Bond Issue
Total Aggregate Value and Amount Expended			\$34,181,860	\$3,718,704	

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
C-3 HEALTH CENTER BUILDINGS					
Health Center No. 4 (2939) Chinatown-North Beach General Construction Northwest Const. Co.	8-2-68	99%	\$1,538,000	\$ 256,623	General
Total Aggregate Value and Amount Expended			\$1,538,000	\$ 256,623	

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
D - De YOUNG MEMORIAL MUSEUM					
Brundage Wing (3161-R) Remodeling Existing Elevator S.F. Elevator Co., Inc.	2-4-70	8-26-70	\$ 15,743	\$ 15,743	General
De Young Museum (3257) Wall Covering for Gallery 29 Cassidy's Interiors, Inc.	7-3-70	10-6-70	3,646	3,646	General
Total Aggregate Value and Amount Expended			\$ 19,389	19,389	

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
F - CIVIC CENTER					
War Memorial Opera House (3258) Locks & Cabinet Work - Prod. & Admin. Offices, 4th & 5th Floors KDI Casework Systems, Inc.	7-29-70	3-22-71	\$ 5,222	\$ 5,472	General
War Memorial Opera House (3279) Misc. Stage Light Mounts Crown Iron Works	10-7-70	2-16-71	1,166	1,166	General
City Hall - Basement (3282) EDP - Room 2A Misc. work - Admin. Offices Herbert Petersen & Sons	10-28-70	3-29-71	6,130	6,130	General
War Memorial Opera House (3266) Interior Plastic Stone Cleaning J. H. Kaatz Co.	11-18-70	2-1-71	1,700	1,700	General
War Memorial Opera House (3284) Spare Panel for Main Curtain B.F. Shearer Co. of Cal.	11-18-70	0	1,920	0	General
City Hall - Second Floor (3267) Shelving for City Attorney's Offices Nibbi Bros.	11-4-70	3-16-71	2,253	2,253	General
War Memorial Opera House (3276) Stage Lighting Wire & Cables Northgate Elec. Co.	9-23-70	2-12-71	70,800	70,800	General
War Memorial Opera House (3263) Backstage Rehab. Ravano Const. Co.	12-16-70	5-17-71	34,555	34,555	General
War Memorial Opera House (3264) Backstage Rehab - Phase II James A. Smith Co.	2-24-71	6-3-71	\$ 4,221	\$ 4,221	General
War Memorial Opera House (3316) Reropeing of Backstage Drops Wm. McIntosh & Son	3-3-71	0	5,990	0	General
War Memorial Opera House (3331) Backstage Rehab - Phase V Wilbert Carney	3-24-71	6-16-71	1,224	1,224	General
War Memorial Opera House (3265) Backstage Rehab - Phase III Cassidy's Interiors, Inc.	3-24-71	5-12-71	1,049	1,049	General
Veterans' Building (3326) Redraping of Windows Cassidy's Interiors, Inc.	3-24-71	6-25-71	2,999	2,999	General
War Memorial Opera House (3322) Backstage Rehab. John Dixon	4-7-71	0	5,125	0	General

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
F - CIVIC CENTER (cont.)					
City Hall, Tax Collector's (3328) New Floor Covering West Coast Lino. & Carpet Co.	4-7-71	5-20-71	995	995	General
War Memorial Opera House (3359) Backstage Rehab. - Phase VI Mayer Electric Co.	6-4-71	0	1,325	0	General
War Memorial Opera House (3369) Backstage Rehab. - Phase VII Ravano Const. Co.	6-23-71	0	\$ 1,330	0	General
Total Aggregate Value and Amount Expended			\$ 148,004	\$ 132,564	

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
G - HALL OF JUSTICE					
Hall of Justice Phase I (3283) Window & Door Protection S.P.D. Const. Inc.	10-7-70	1-6-71	\$ 10,570	\$ 10,570	General
Hall of Justice Phase II (3317) Window & Door Protection Monty W. Connery	3-10-71	70%	6,691	4,215	General
Total Aggregate Value and Amount Expended			\$ 17,261	\$ 14,785	

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
H - MISCELLANEOUS					
Central Police Station (2779) & North Beach Parking Garage Biltwell Const. Co.	9-13-67	9-28-70	\$1,072,332	\$ 82,599	General
Candlestick Park Stadium (3155-R) Phase IA - Movable Stands Rollway Grandstand Corp.	4-22-70	99%	1,140,060	895,699	S.F. Stadium
Park Police Station (3214) Security Chain Link Fencing Oakland Fence Co. Inc.	4-24-70	8-18-70	3,995	5,106	General
Mission Police Station (3203) Window Protection Michel & Pfeffer	4-24-70	7-1-70	2,590	2,590	General

## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
H - MISCELLANEOUS (cont.)					
Various Police Stations (3229) Emergency Personnel Protection Work, Elec. Phase, Ingleside, Mission & Richmond Stations, Crown Electric & Maint. Co.	5-1-70	6-29-70	12,743	12,743	General
Northern Police Station (3201) Window Protection Michel & Pfeffer	5-1-70	7-27-70	4,995	4,995	General
Palace of Arts & Science (3206) Theater of Performing Arts Wilco Const. Co.	5-20-70	2-18-71	347,661	324,648	General
Engine Company No. 25 (3169) Radio Controlled Doors and Hose Racks Monty W. Connery	5-6-70	11-12-70	16,794	5,226	General
S.F. County Jail No. 2 (3244-R) Emergency Security Measures for Men's Building Crown Iron Works	6-5-70	7-22-70	\$ 8,400	\$ 8,400	General
Gilman Recreation Bldg. (3146) Gilman Playground Trans Western Const. Co.	6-26-70	2-19-71	81,845	81,845	General
Candlestick Park Stadium (3155-B) Improvements & Expansion Adams & Smith, Inc.	7-24-70	12-11-70	109,607	109,607	S.F. Stadium
Candlestick Park Stadium (3155-C) Interim Tenant Parking Anchor Fence Products Inc.	7-24-70	8-14-70	18,765	18,765	S.F. Stadium
Central Police Station (3269) Rolling Grille & Misc. Work Monty W. Connery	8-12-70	11-12-70	5,226	5,226	General
Chinatown Gateway (3287) Additional Signboard & Chinese Characters Crown Iron Works	10-9-70	3-1-71	1,284	1,284	General
Candlestick Park Stadium (3180) Improvement & Expansion Phase II Williams & Burrows, Inc.	11-6-70	46%	11,538,000	4,554,071	S.F. Stadium
McLaren Park (3288) Repairs to McLaren Fieldhouse Monty W. Connery	11-25-70	2-25-71	5,897	5,897	General



## CURRENT CONTRACT DATA - 1970-71

Description & Contractor	Awarded	Completed Date or %	Contract Amount	Amount Expended	Fund
H - MISCELLANEOUS (cont.)					
Ingleside and Park Police (3228) Stations - Alterations for Personnel Security API Const. Co.	12-2-70	95%	\$ 5,507	\$ 4,912	General
Taraval Police Station (3304) Alterations for personnel Security Elbe Construction Co.	12-16-70	5-15-71	5,315	5,315	General
Potrero & Richmond Police (3308) Stations - Alterations for Personnel Security M & H Construction	12-30-70	0	4,736	0	General
Silver Terrace Playground (3293) Fieldhouse - Repair Fire Damage A & P Construction Inc.	1-6-71	5-17-71	10,580	10,580	General
Mission & Ingleside Police (3310) Stations - Alterations for Personnel Security Madsen Const. Co.	1-27-71	4-12-71	12,844	12,844	General
Northern Police Station (3303) Alterations for Personnel Security Elbe Const. Co.	1-13-71	99%	18,811	16,923	General
McLaren Park Convenience (3294) Station Boscon Const. Inc.	2-19-71	62%	27,900	10,554	General
Southern Police Station (3318) Alterations for Personnel Security Wm. McIntosh & Son	2-19-71	0	3,309	0	General
Steinhart Aquarium (3301) Glass Fiber Tanks Pacific General	3-3-71	0	\$ 2,463	0	General
Ocean View Recreation Center Rehabilitation (3313) Associated Trades	5-26-71	0	171,114	0	General
Police Stations (3362) Protective Shields on Windows Golden Gate Glass & Mirror Co.	6-18-71	0	1,146	0	General
Total Aggregate Value and Amount Expended			\$14,633,919	\$6,179,829	







